SAFETY PRECAUTIONS

SERVICE WARNING

Only qualified service technicians who are familiar with safety checks and guidelines should perform service work. Before replacing parts, disconnect power source to protect electrostatically sensitive parts. Do not attempt to modify any circuit unless so recommended by the manufacturer. When servicing the receiver, use an isolation transformer between the line cord and power receptacle.

SERVICING THE HIGH VOLTAGE AND CRT

Use EXTREME CAUTION when servicing the high voltage circuits. To discharge static high voltage, connect a 10K ohms resistor in series with a test lead between the receiver ground and CRT anode lead. DO NOT lift the CRT by the neck. Always wear shatterproof goggles when handling the CRT to protect eyes in case of implosion.

X-RAY RADIATION AND HIGH VOLTAGE LIMITS

Be aware of the instructions and procedures covering X-ray radiation. In solid-state receivers and monitors, the CRT is the only potential source of X-rays. Keep an accurate high voltage meter available at all times. Check meter calibration periodically. Whenever servicing a receiver, check the high voltage at various brightness levels to be sure it is regulating properly. Keep high voltage at rated value, NO HIGHER. Excessive high voltage may cause X-ray radiation or failure of associated components. DO NOT depend on protection circuits to keep voltage at rated value. When troubleshooting a receiver with excessive high voltage, avoid close contact with the CRT. DO NOT operate the receiver longer than necessary. To locate the cause of excessive high voltage, use a variable AC transformer to regulate voltage. In present receivers, many electrical and mechanical components have safety related characteristics which are not detectable by visual inspection. Such components are identified by a # on both the schematic and the parts list. For SAFETY, use only equivalent replacement parts when replacing these components.

GENERAL GUIDELINES

Perform a final SAFETY CHECK before returning receiver to customer. Check repaired area for poorly soldered connections, and check entire circuit board for solder splashes. Check board wiring for pinched wires or wires contacting any high wattage resistors. Check that all control knobs, shields, covers, grounds, and mounting hardware have been replaced. Be sure to replace all insulators and restore proper lead dress.

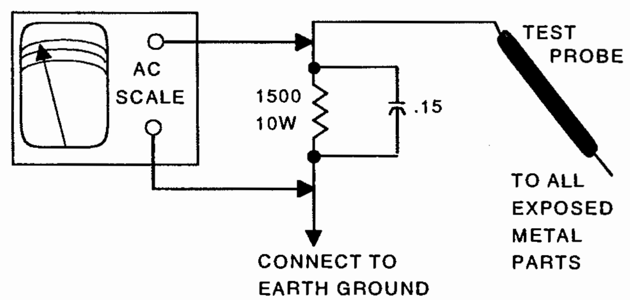
SAFETY CHECKS — FIRE AND SHOCK HAZARD

Cold Leakage Checks for Receivers with Isolated Ground

Unplug the AC cord, connect a jumper across the plug prongs, and turn the power switch on (if applicable). Use an ohmmeter to measure the resistance between the jumped AC plug and any exposed metal cabinet parts such as antenna screw heads, control shafts, or handle brackets. Exposed metal parts with a return path should measure between 1M ohms and 5.2M ohms. Parts without a return path must measure infinity.

Hot Leakage Current Check

Plug the AC cord directly into an AC outlet. DO NOT use an isolation transformer. Use a 1500 ohms, 10W resistor in parallel with a .15µF capacitor to connect between any exposed metal parts on the receiver and a good earth ground. (See figure below.) Use an AC voltmeter with at least 5000 ohms per volt sensitivity to measure the voltage across the resistor. Check all exposed metal parts and measure voltage at each point. Voltage measurements should not exceed .75VAC, 500µA. Any value exceeding this limit constitutes a potential shock hazard and must be corrected. If the AC plug is not polarized, reverse the AC plug and repeat exposed metal part voltage measurement at each point.



5436 West 78th Street
Indianapolis, IN 46268-4149

Printed in the United States of America 5 4 3 2 1

02PF01972

4634

SET 4634

MODEL 27PT81S125 (CHASSIS 27H8)

PHILIPS

PHOTOFACT® SILVER Technical Service Data

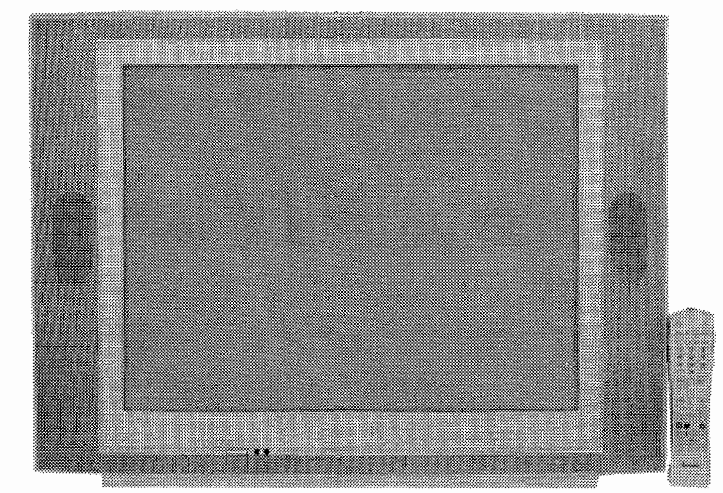
PHILIPS

Models 27PT81S125 (Chassis 27H8)

4634

INDEX

**For Supplier Address,
See PHOTOFACT Annual Index**



**Essential coverage
for servicing a television receiver...**

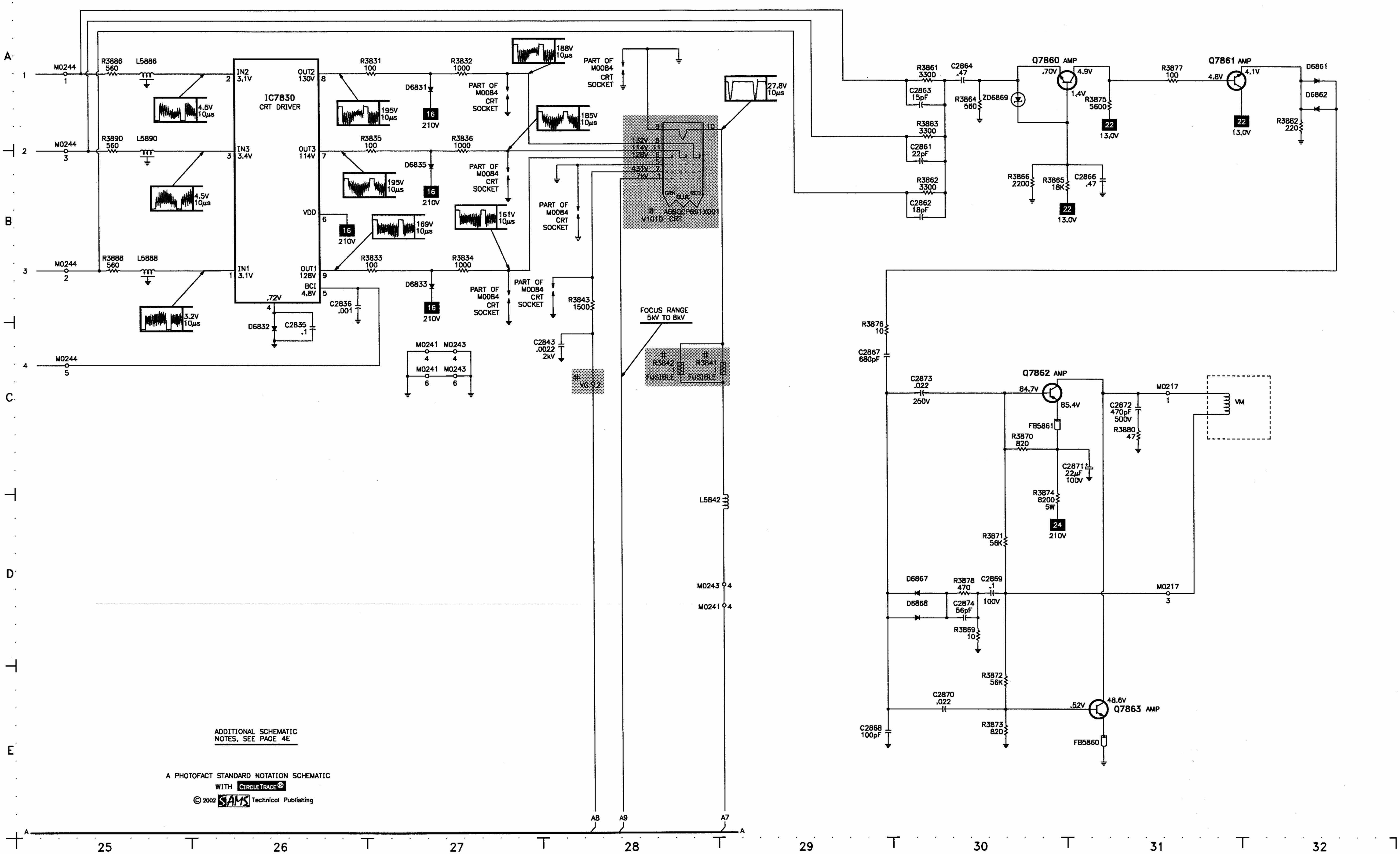
- **Schematics**
- **Component locations**
- **Parts list**

SAMS™ Technical Publishing

SEPTEMBER 2002 SET 4634

CRT/SCAVEM SCHEMATIC

G H

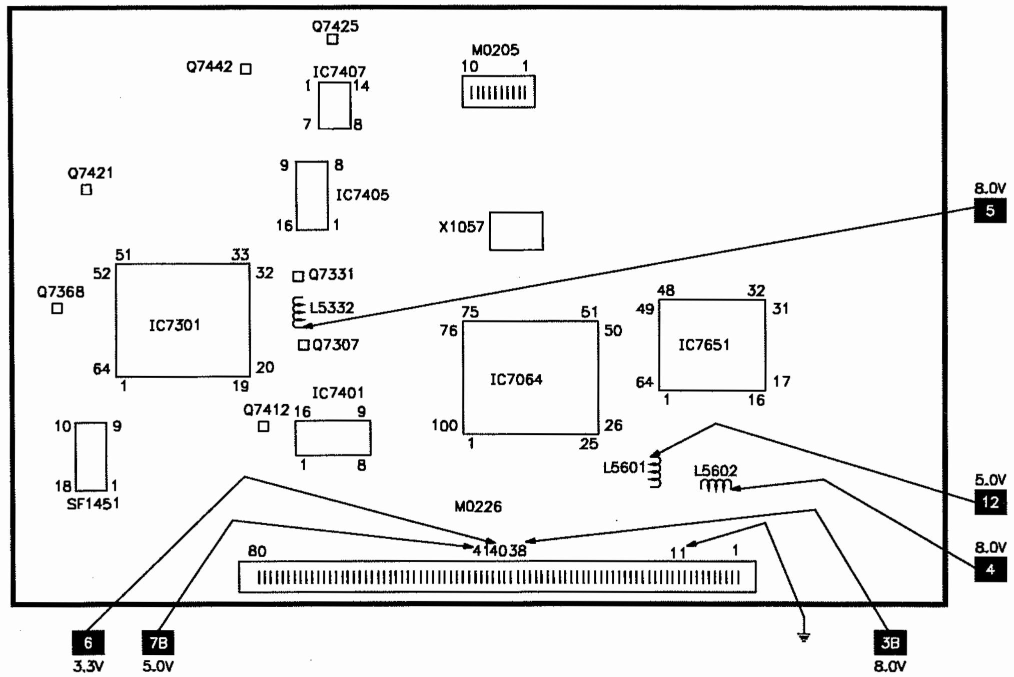


PHILIPS

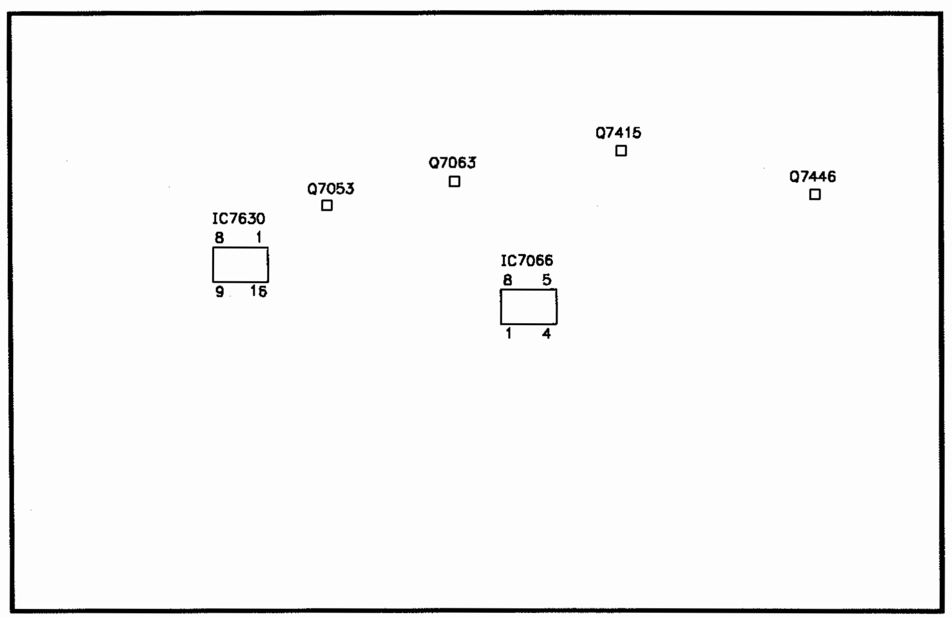
MODEL 27PT81S125 (CHASSIS 27H8)

PLACEMENT CHART continued

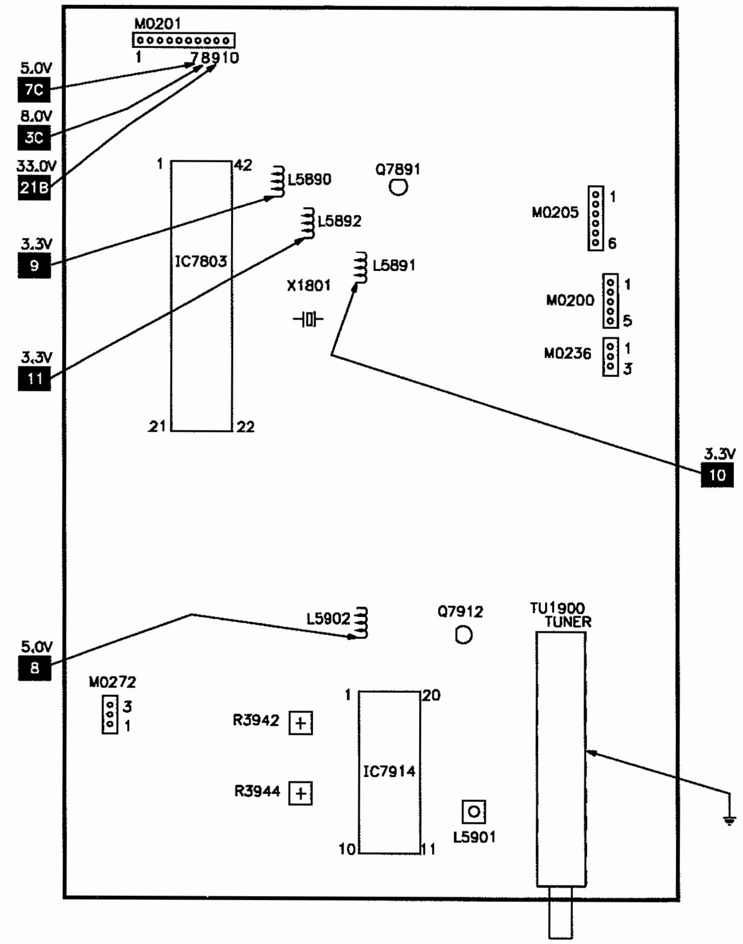
SMALL SIGNAL BOARD - TOP VIEW



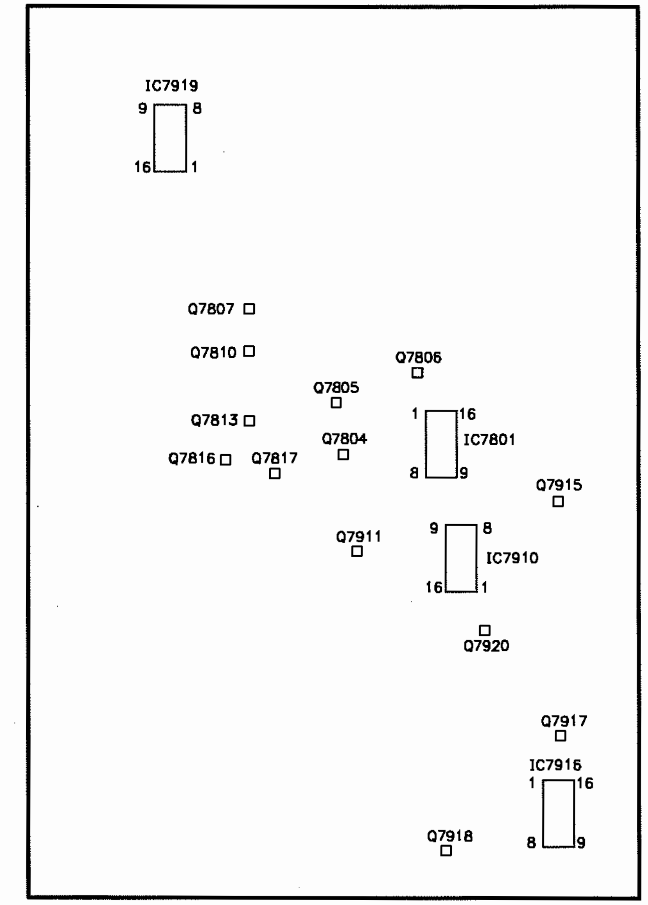
SMALL SIGNAL BOARD - BOTTOM VIEW



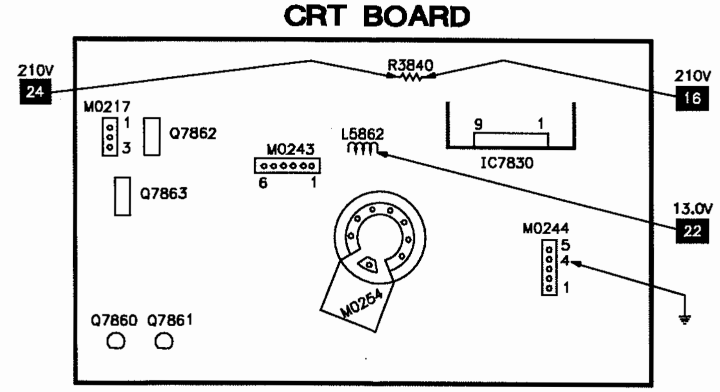
PIP BOARD - TOP VIEW



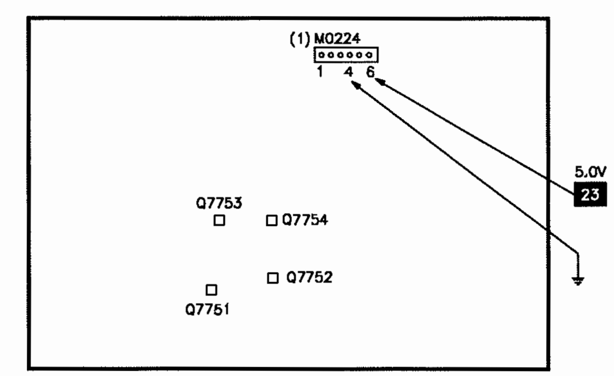
PIP BOARD - BOTTOM VIEW



CRT BOARD

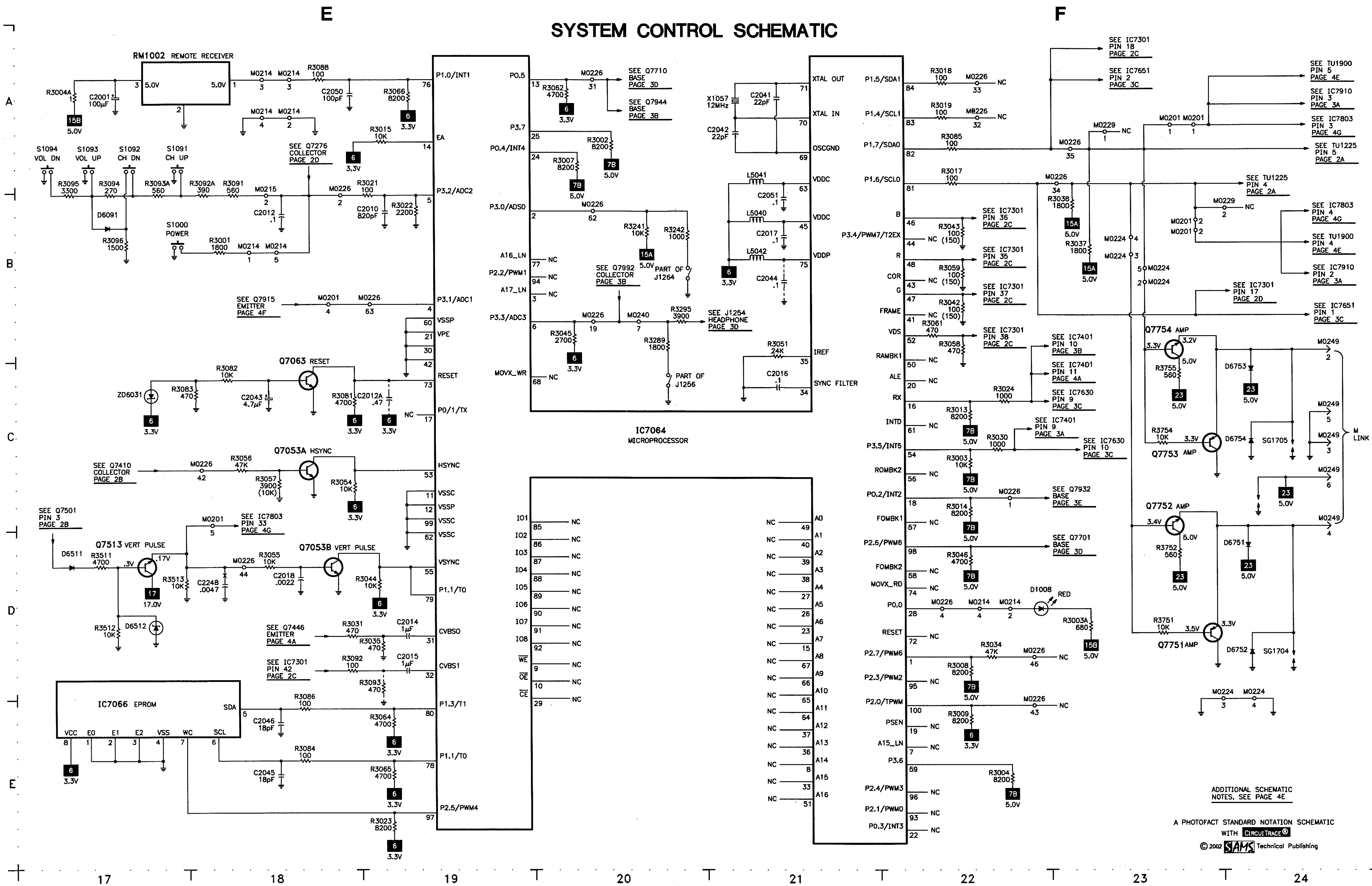


M LINK BOARD - BOTTOM VIEW



(1) LOCATED ON TOP OF BOARD

SYSTEM CONTROL SCHEMATIC



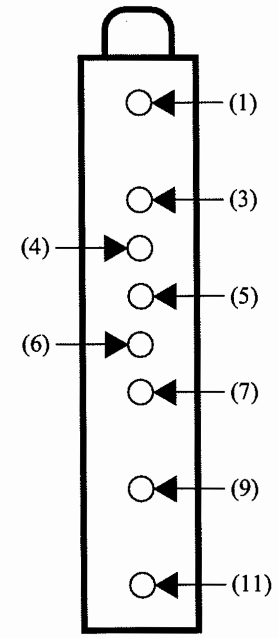
TUNER INFORMATION

MAIN TUNER VOLTAGE CHART

Pin	VHF Low Band	VHF High Band	UHF Band
(1) AGC	1.9V	2.0V	2.9V
(3) NC	4.9V	4.9V	4.9V
(4) SCL	3.5V	3.5V	3.5V
(5) SDA	3.2V	3.2V	3.2V
(6) +5V	5.0V	5.0V	5.0V
(7) +5V	5.0V	5.0V	5.0V
(9) +33V	33.0V	33.0V	33.0V
(11) IF	0V	0V	0V

NOTE: VHF Low Band voltages taken on channel 2.
VHF High Band voltages taken on channel 7.
UHF Band voltages taken on channel 14

MAIN TUNER TERMINAL GUIDE

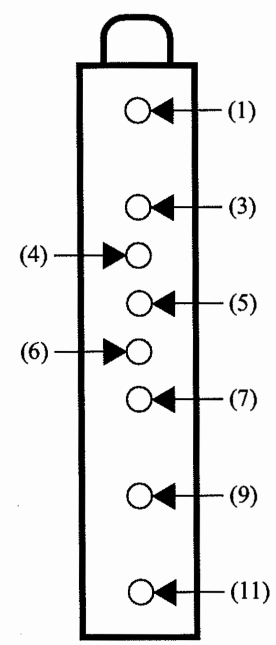


PIP TUNER VOLTAGE CHART

Pin	VHF Low Band	VHF High Band	UHF Band
(1) AGC	4.1V	4.1V	4.2V
(3) NC	0V	0V	0V
(4) SCL	3.5V	3.5V	3.5V
(5) SDA	3.2V	3.2V	3.2V
(6) MB1	5.0V	5.0V	5.0V
(7) MB2	5.0V	5.0V	5.0V
(9)TU2	33.0V	33.0V	33.0V
(11) IF	0V	0V	0V

NOTE: VHF Low Band voltages taken on channel 2.
VHF High Band voltages taken on channel 7.
UHF Band voltages taken on channel 14

PIP TUNER TERMINAL GUIDE



Important Parts Information

- The parts listed here are those not usually available from a well-stocked supply cabinet or bin.
- Where items may be replaced with equivalent parts, several alternates are shown from participating vendors.
- On the parts lists, safety items are marked with a # to remind you that only exact replacements are recommended for these items.
- When ordering parts, state the model number, part number, and description.

Obtaining Parts

Many of these parts are available from your local Sams authorized distributor or the manufacturer of the equipment. Call Sams for the name of your nearest distributor:

800-428-7267

Or consult the Sams *Annual Index* for the address of the original equipment manufacturer.

Participating Vendors

Information on test equipment and replacement parts is listed in these pages for the following participating vendors. Consult the Sams *Annual Index* for their current address.

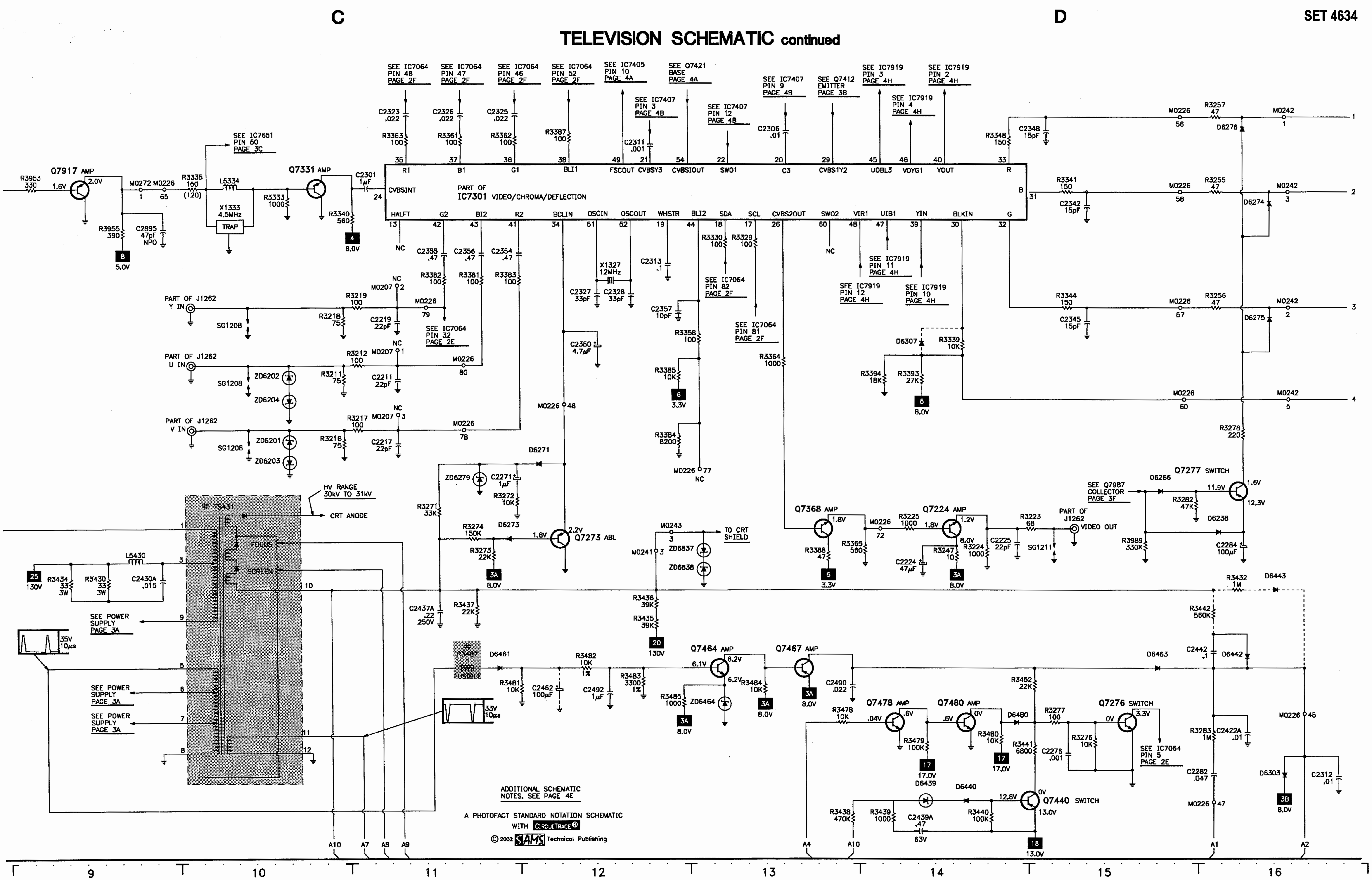
- NTE Electronics, Inc. (NTE)
- Sencore, Inc.

TEST EQUIPMENT

Test equipment listed by participating manufacturer illustrates typical or equivalent equipment used by Sams engineers to obtain measurements. This equipment is compatible with most types used by field service technicians.

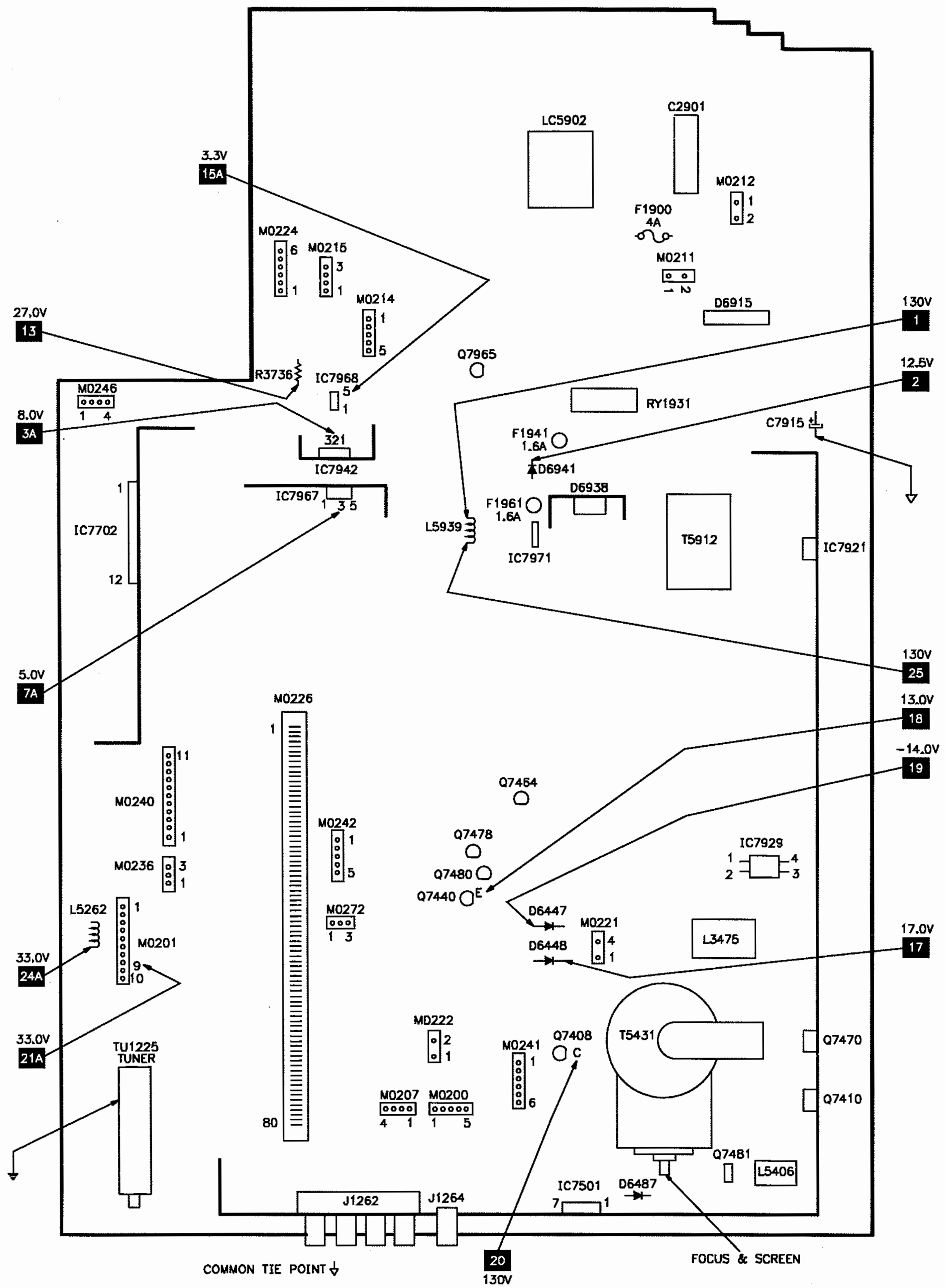
Equipment	Sencore No.	Equipment	Sencore No.
Oscilloscope	SC3100	Isolation Transformer	PR570
Generators		Capacitance Analyzer	LC102
RGB	CM2125	CRT Analyzer	CR7000
Multiburst Signal	VG91	AC Leakage Tester	PR570
Color Bar	VG91	Inductance Analyzer	LC102
TV Stereo	VG91	Flyback Yoke Tester	TVA92
Digital VOM	SC3100	Field Strength Meter	SL753
Frequency Meter	SC3100	Transistor Tester	TF46
Hi-Voltage Probe	HP200	Horizontal Analyzer	HA-2500
Accessory Probes	TP212	Video Analyzer	VG91, TVA92

TELEVISION SCHEMATIC continued

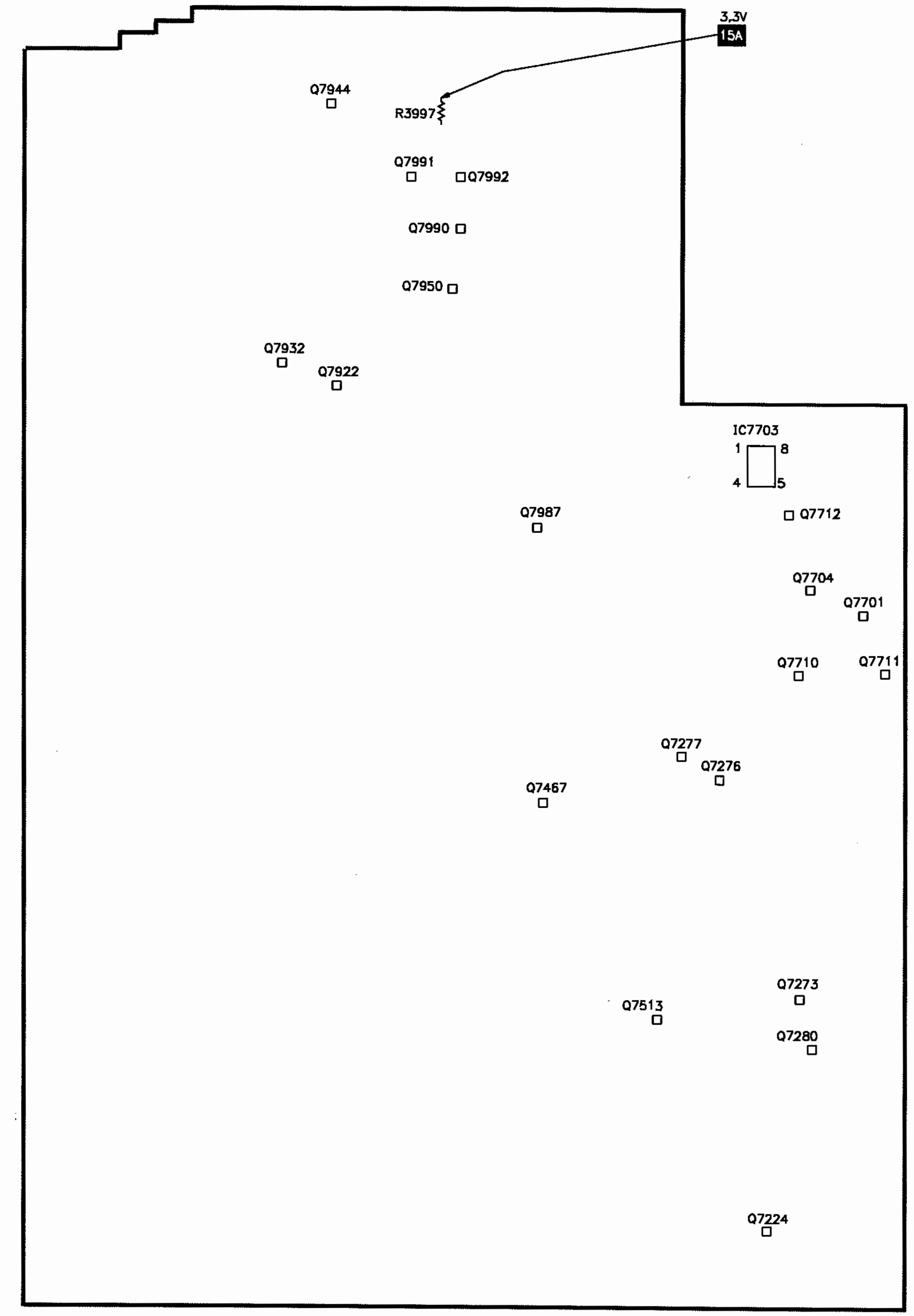


PLACEMENT CHART

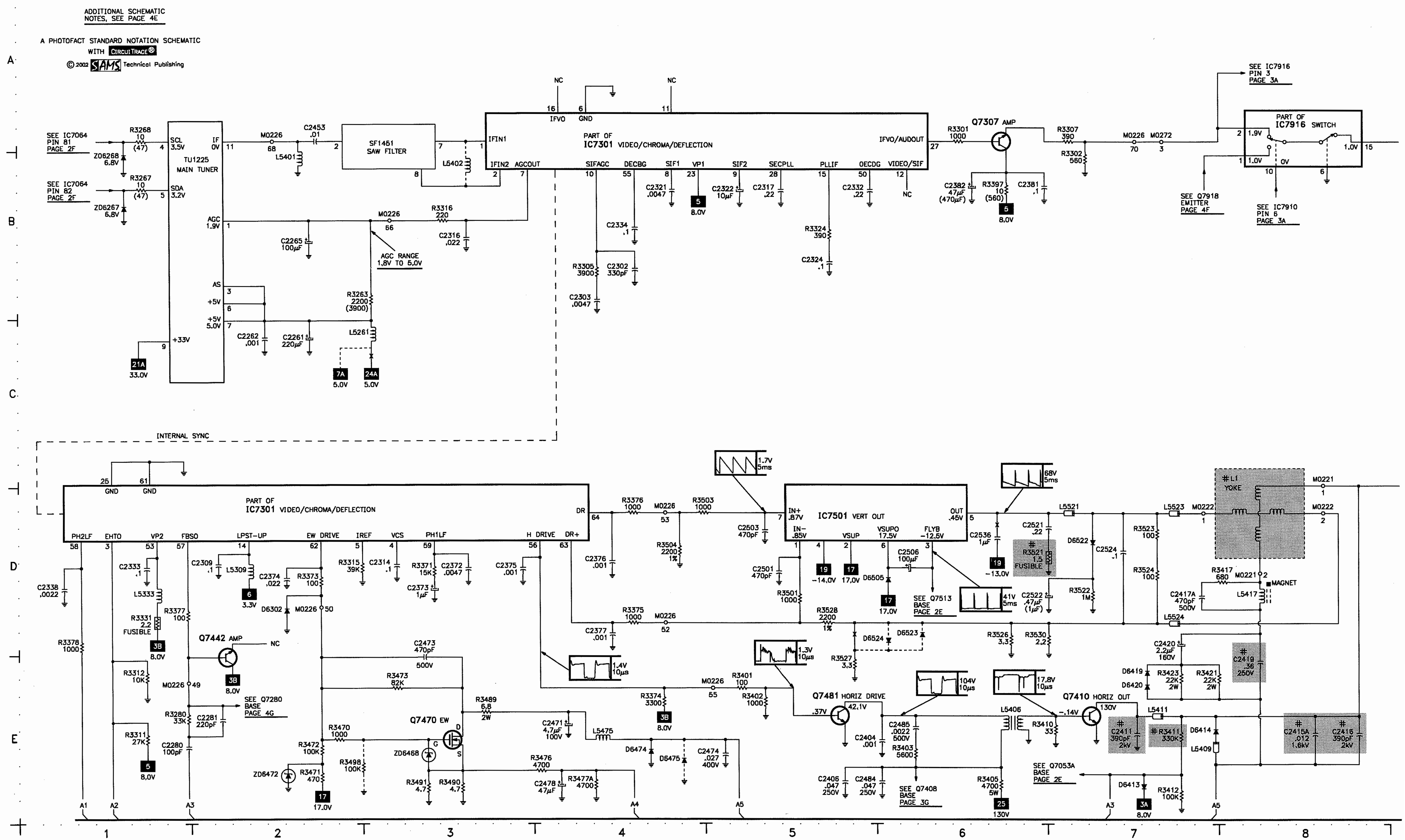
LARGE SIGNAL BOARD - TOP VIEW



LARGE SIGNAL BOARD - BOTTOM VIEW

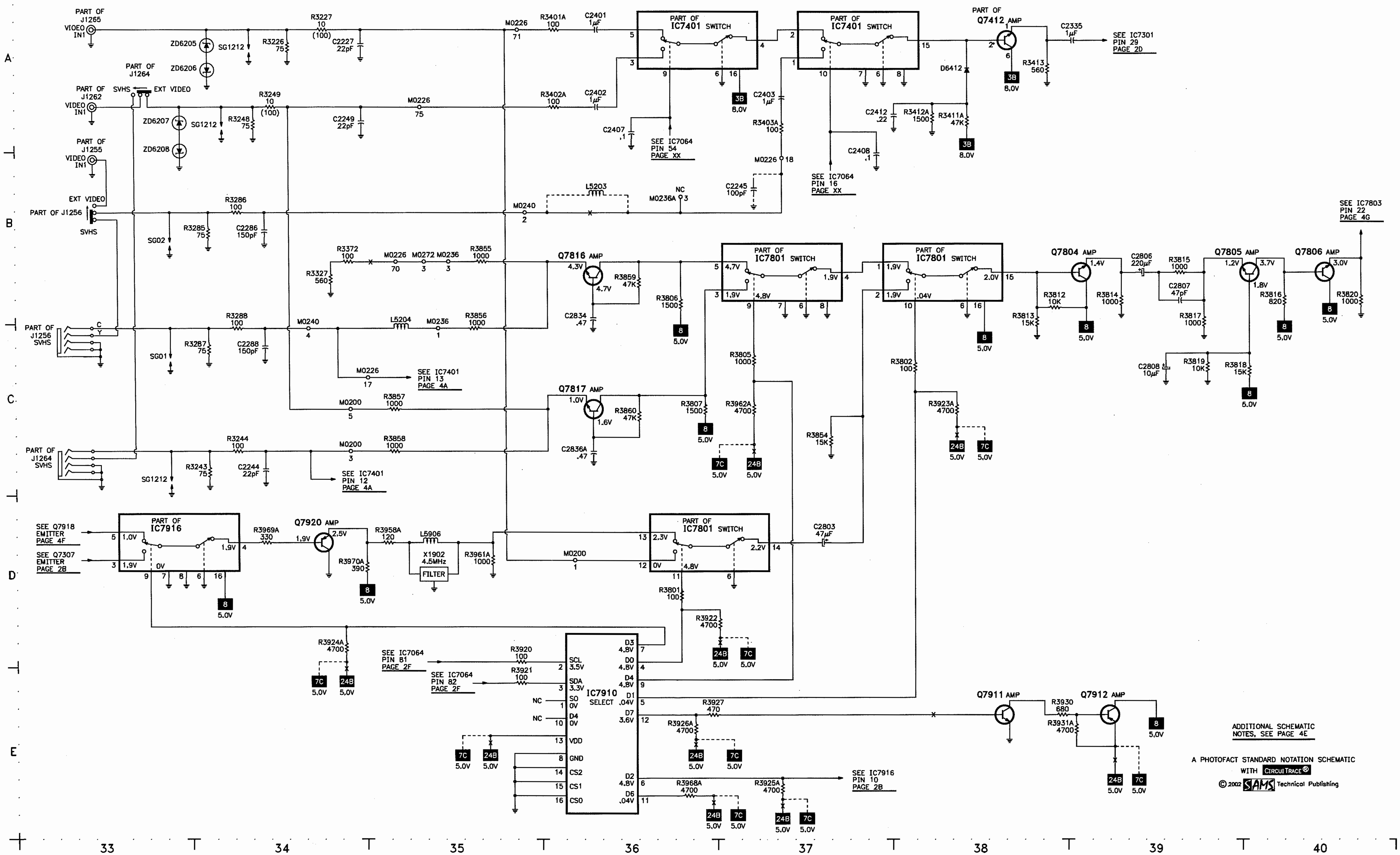


TELEVISION SCHEMATIC



A B

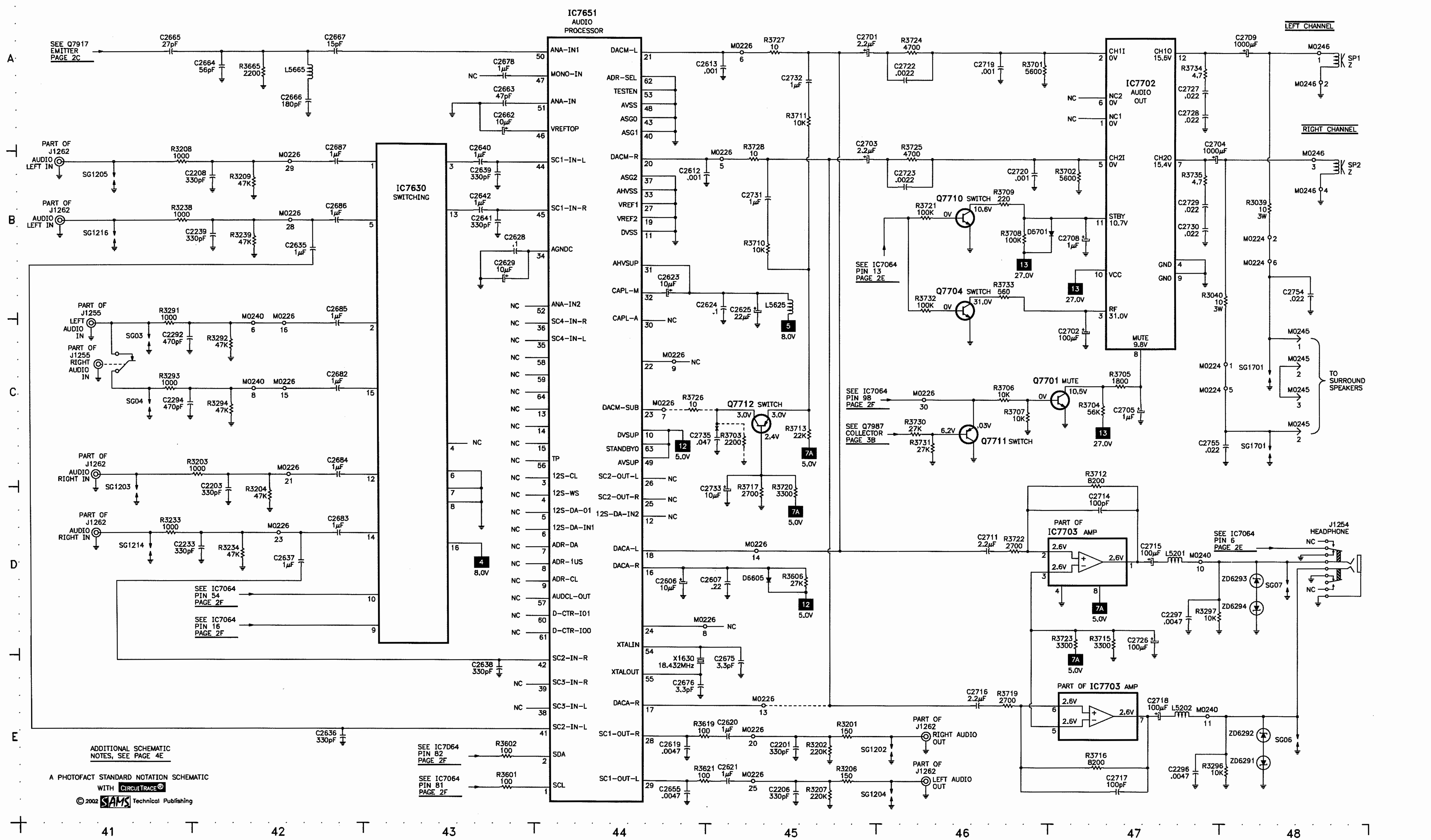
VIDEO SWITCHING SCHEMATIC



SCHEMATIC COMPONENT LOCATION GUIDE

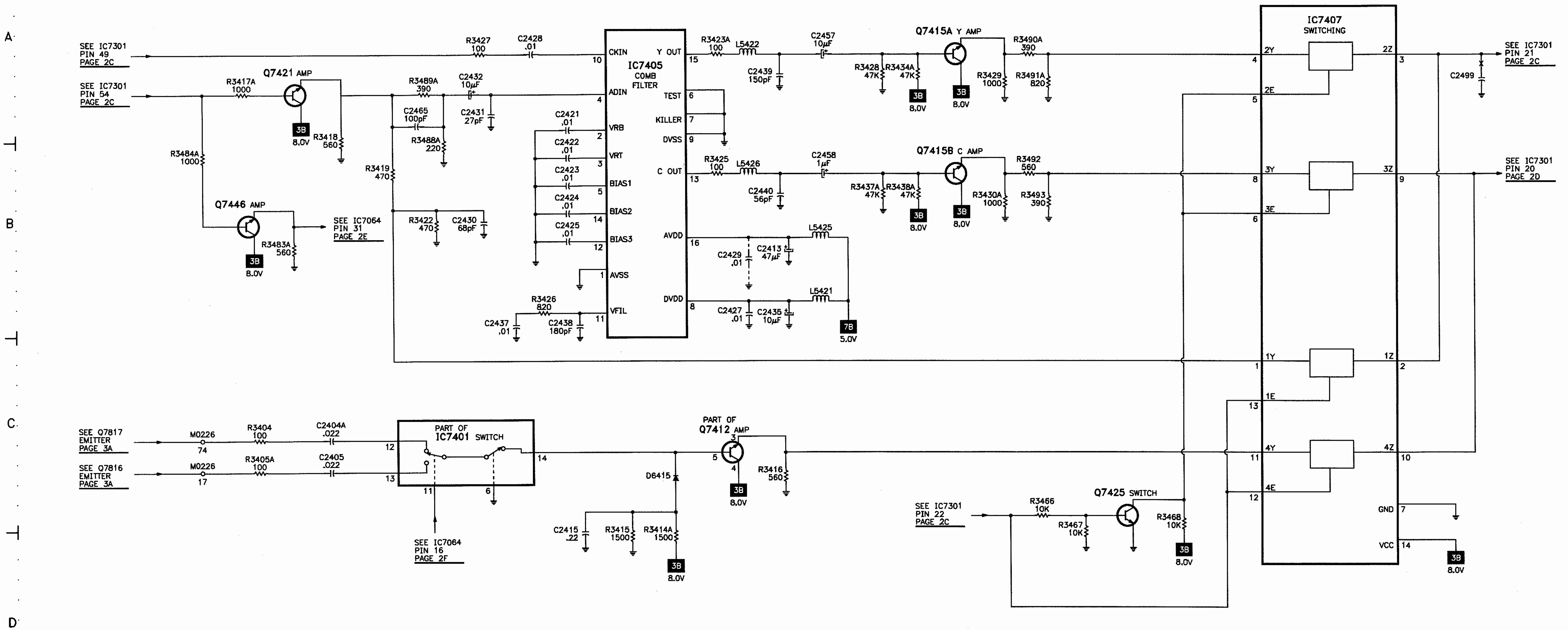
AC01	A49
AC10	A51
C2001	A17
C2010	B19
C2012	B18
C2012A	C19
C2014	D19
C2015	D19
C2016	C21
C2017	B21
C2018	D18
C2041	A21
C2042	A21
C2043	C18
C2044	B21
C2045	E18
C2046	E18
C2049	C59
C2050	A18
C2051	B21
C2053	C59
C2201	E45
C2203	D42
C2206	E45
C2208	B42
C2211	C11
C2217	C11
C2219	B11
C2224	D14
C2225	D14
C2227	A34
C2233	D42
C2239	B42
C2244	C34
C2245	B37
C2248	D18
C2249	A34
C2261	C2
C2262	C2
C2265	B2
C2266	B60
C2271	C11
C2276	E15
C2280	E1
C2281	E2
C2282	E16
C2284	D16
C2286	B34
C2288	C34
C2292	C41
C2294	C41
C2296	E47
C2297	D47
C2301	B11
C2302	B4
C2303	B4
C2306	A13
C2309	D2
C2311	A12
C2312	E16
C2313	B12
C2314	D3
C2316	B3
C2317	B5
C2319	C59
C2321	B4
C2322	B5
C2323	A11
C2324	B5
C2325	A11
C2326	A11
C2327	B12
C2328	B12
C2332	B5
C2333	D1
C2334	B4
C2335	A38
C2338	D1
C2340A	E60
C2342	B15
C2345	B15
C2348	A15
C2350	B12
C2354	B12
C2355	B11
C2356	B11
C2357	B12
C2372	D3
C2373	D3
C2374	D2
C2375	D3
C2376	D4
C2377	D4
C2380	C59
C2381	B6
C2382	B6
C2401	A36
C2402	A36
C2403	A37
C2404A	C62
C2404	E5
C2405	C62
C2406	E5
C2407	A36
C2408	B37
C2409	B59
C2411	E7
C2412	A37
C2413	B64
C2415	D63
C2415A	E8
C2416	E8
C2417	B60
C2417A	D7
C2419	E8
C2420	D7
C2421	B63
C2422	B63
C2422A	E16
C2423	B63
C2424	B63
C2425	B63
C2427	B64
C2428	A63
C2429	B64
C2430	B63
C2430A	D9
C2431	A63
C2432	A63
C2434	A56
C2435	B64
C2437	C63
C2437A	D11
C2438	C63
C2439	A64
C2439A	E14
C2440	B64
C2442	D16
C2445	D51
C2447	E51
C2449	D51
C2453	B2
C2457	A64
C2458	B64
C2461	B59
C2462	D12
C2462A	C58
C2463	B59
C2465	B62
C2471	E4
C2473	E3
C2474	E5
C2478	E4
C2484	E5
C2485	E6
C2490	D13
C2492	D12
C2499	A68
C2501	D5
C2503	D5
C2505	D52
C2506	D6
C2521	D6
C2522	D6
C2523	E52
C2524	D7
C2531	B59
C2536	D6
C2601	D59
C2602	D59
C2606	D44
C2607	D45
C2612	B44
C2613	A45
C2619	E44
C2620	E45
C2621	E45
C2623	B44
C2624	C45
C2625	C45
C2628	B43
C2629	B43
C2635	B42
C2636	E42
C2637	D42
C2638	E43
C2639	B43
C2640	B43
C2641	B43
C2642	B43
C2655	E44
C2657	D60
C2662	B43
C2663	A43
C2664	A42
C2665	A41
C2666	A42
C2667	A42
C2675	E45
C2676	E44
C2678	A43
C2679	C60
C2682	C42
C2683	D42
C2684	D42
C2685	C42
C2686	B42
C2687	B42
C2701	A45
C2702	C47
C2703	B45
C2704	B47
C2705	C47
C2706	E56
C2707	E56
C2708	B47
C2709	A48
C2711	D46
C2712	C59
C2713	C60
C2714	D47
C2715	D47
C2716	E46
C2717	E47
C2718	E47
C2719	A46
C2720	B46
C2722	A46
C2723	B46
C2726	D47
C2727	A47
C2728	A47
C2729	B47
C2730	B47
C2731	B45
C2732	A45
C2733	D45
C2735	C45
C2751	E56
C2754	B48
C2755	C47
C2756	E56
C2757	E56
C2801	D60
C2803	D37
C2804	E78
C2805	D59
C2806	B39
C2807	B39
C2808	C39
C2809	D78
C2810	D78
C2811	E59
C2812	E60
C2813	E60
C2814	E59
C2815	D78
C2816	D78
C2817	D81
C2818	D81
C2819	D78
C2820	C79
C2821	C79
C2822	C78
C2823	E59
C2824	E60
C2825	B79
C2826	B79
C2827	B79
C2828	D58
C2829	B81
C2830	D52
C2830A	D59
C2831	D52
C2831A	B82
C2833	B81
C2834	C36
C2835	C26
C2836	B26
C2836A	C36
C2837	D78
C2840	D52
C2841	D59
C2843	C28
C2860	E52
C2861	B30
C2862	B30
C2863	A30
C2864	A30
C2866	B31
C2867	C29
C2868	E29
C2869	D30
C2870	E30
C2871	C31
C2872	C31
C2873	C30
C2874	D30
C2876	E52
C2890	D60
C2891	D59
C2892	E58
C2893	E59
C2894	E59
C2895	B9
C2902	A49
C2908	A51
C2909	A51
C2911	D59
C2915	A52
C2915A	D59
C2916	D58
C2917	B70
C2919	B51
C2920	C70
C2921	B51
C2921A	B73
C2922	C52
C2923	D59
C2924	B72
C2925	C51
C2925A	B72
C2926	B72
C2927	C50
C2927A	B72
C2928	B71
C2929	C52
C2929A	B71
C2930	A83
C2931	A83
C2932	B50
C2932A	A82
C2933	A82
C2934	C59
C2935	C60
C2936	A54
C2936A	A83
C2937	A82
C2938	A54
C2939	A55
C2941	B53
C2942	B54
C2943	B56
C2945	B60
C2961	D54
C2962	D54
C2963	C52
C2964	D53
C2966	C56
C2967	D55
C2968	D55
C2969	E55
C2970	C50
C2974	E54
C2977	E55
D1008	D22
D6091	B17
D6238	D16
D6266	C15
D6271	C12
D6273	D11
D6274	B16
D6275	B16
D6276	A16
D6302	D2
D6303	E16
D6307	B14
D6412	A38
D6413	E7
D6414	E7
D6415	C64
D6419	E7
D6420	E7
D6439	E14
D6440	E14
D6442	D16
D6443	D16
D6445	D51
D6447	E51
D6448	D51
D6461	D11
D6463	D15
D6474	E4
D6475	E4
D6480	E14
D6505	D6
D6511	D17
D6512	D17
D6522	D7
D6523	D6
D6524	D6
D6605	D45
D6701	B46
D6751	D24
D6752	D24
D6753	C24
D6754	C24
D6801	E79
D6831	A27
D6832	C26
D6833	B27
D6835	B27
D6861	A32
D6862	A32
D6867	D30
D6868	D30
D6915	A51
D6916	C51
D6926	C51
D6928	C50
D6929	C50
D6932	B50
D6938	A54
D6941	B53
D6942	B53
D6961	D54
D6971	D53
D6973	C55
D6986	B54
D6991	B54
F1900	A49
F1941	B53
F1961	D54
FB5860	E31
FB5861	C30
FB5920	A52
FB5924	C51
FB5936	A53
FB5941	B53
FB5961	D53
FB5971	D53
IC7064	C20
IC7066	E17
IC7301	B11
IC7301	B4
IC7301	D2
IC7401	A36
IC7401	A37
IC7401	C63
IC7405	A64
IC7407	A67
IC7501	D5
IC7630	B43
IC7651	A44
IC7702	A47
IC7703	D47
IC7703	E47
IC7801	B37
IC7801	B38
IC7801	D36
IC7803	B79
IC7830	A26
IC7910	E36
IC7914	A72
IC7916	A8
IC7916	D33
IC7919	C82
IC7921	B52
IC7929	B50
IC7942	C54
IC7967	D54
IC7968	E54
IC7971	B49
J1254	D48
J1255	B33
J1255	C41
J1255	C41
J1256	B33
J1256	C20
J1256	C33
J1262	A33
J1262	B41
J1262	B41
J1262	D15
J1262	D41
J1262	D41
J1262	E46
J1262	E46
J1264	A33
J1264	B20
J1264	C33
J1265	A33
L1	D8
L5040	B21
L5041	B21
L5042	B21
L5201	D47
L5202	E47
L5203	B36
L5204	C35
L5261	C3
L5262	D58
L5309	D2
L5332	C59
L5333	D1
L5334	B10
L5401	B2
L5402	B3
L5406	E6
L5409	E7
L5411	E7
L5417	D8
L5421	B64
L5422	A64
L5425	B64
L5426	B64
L5430	D9
L5445	D50
L5446	E50
L5448	D50
L5475	E4
L5521	D7
L5523	D7
L5524	D7
L5601	D58
L5602	C59
L5625	C45
L5665	A42
L5842	D28
L5862	E52
L5886	A25
L5888	B25
L5890	B25
L5890A	E59
L5891	E59
L5892	E59
L5901	B73
L5902	D58
L5903	A70
L5905	B72
L5906	D35
L5939	A55
LC5902	A50
Q7053A	C18
Q7053B	D18
Q7063	C18
Q7224	D14
Q7273	D12
Q7276	E15
Q7277	C16
Q7280	E78
Q7307	B6
Q7331	B10
Q7368	D13
Q7408	B58
Q7410	E7
Q7412	A38
Q7412	C64
Q7415A	A65
Q7415B	B65
Q7421	A62
Q7425	D66
Q7440	E14
Q7442	E2
Q7446	B62
Q7464	D13
Q7467	D13
Q7470	E3
Q7478	E14
Q7480	E14
Q7481	E5
Q7513	D17
Q7701	C46
Q7704	C46
Q7710	B46
Q7711	C46
Q7712	C45
Q7751	D23
Q7752	D23
Q7753	C23
Q7754	C23
Q7804	B38
Q7805	B39
Q7806	B40
Q7807	B80
Q7810	B81
Q7813	B80
Q7816	B36
Q7817	C36
Q7860	A30
Q7861	A31
Q7862	C30
Q7863	E31
Q7891	E58
Q7911	E38
Q7912	E39
Q7915	B74
Q7917	B9
Q7918	A74
Q7920	D34
Q7922	C54
Q7932	B49
Q7944	C54
Q7950	D55
Q7965	C55
Q7987	B54
Q7990	B54
Q7991	B55
Q7992	B56
R3001	B18
R3002	A20
R3003	C22
R3003A	D23
R3004	E22
R3004A	A17
R3007	A20
R3008	D22
R3009	E22
R3013	C22
R3014	C22
R3015	A19
R3017	B22
R3018	A22
R3019	A22
R3021	B18
R3022	B19
R3023	E19
R3024	C22
R3030	C22
R3031	D18
R3034	D22
R3035	D19
R3037	B23
R3038	B23
R3039	B48
R3040	B47
R3042	B22
R3043	B22
R3044	D19
R3045	B20
R3046	D22
R3051	C21
R3054	C18
R3055	D18
R3056	C18
R3057	C18
R3058	C22
R3059	B22
R3061	B22
R3062	A20
R3064	E19
R3065	E19
R3066	A19
R3081	C18
R3082	C18
R3083	C18
R3084	E18
R3085	A22
R3086	E18
R3088	A18
R3091	B18
R3092	D18
R3092A	B18
R3093	D19
R3093A	B17
R3094	B17
R3095	B17
R3096	B17
R3201	E45
R3202	E45
R3203	D41
R3204	D42
R3206	E45
R3207	E45
R3208	B41
R3209	B42
R3211	C10
R3212	C11
R3216	C10
R3217	C11
R3218	B10
R3219	B11
R3223	D14
R3224	D14
R3225	D14
R3226	A34
R3227	A34
R3233	D41
R3234	D42
R3238	B41
R3239	B42
R3241	B20
R3242	B20
R3243	C34
R3244	C34
R3247	D14
R3248	A34
R3249	A34
R3255	B16
R3256	B16
R3257	A16
R3263	B3
R3267	B1
R3268	B1
R3271	C11
R3272	C11
R3273	D11
R3274	D11
R3276	E15
R3277	E15
R3278	C16
R3280	E1
R3281	E78
R3282	C16
R3283	E16
R3285	B34
R3286	B34
R3287	C34
R3288	C34
R3289	B20
R3291	C41
R3292	C42
R3293	C41
R3294	C42
R3295	B20
R3296	E47
R3297	D47
R3301	B6
R3302	B7
R3305	B4
R3307	B7
R3311	E1
R3312	E1
R3315	D2
R3316	B3
R3324	B5
R3327	B34
R3329	B13
R3330	B13
R3331	D1
R3332	C59
R3333	B10
R3335	B10
R3339	B14
R3340	B11
R3341	B15
R3344	B15
R3348	A14
R3358	B13
R3361	A11
R3362	A11
R3363	A11
R3364	C13
R3365	D14
R3371	D3
R3372	B34
R3373	D2
R3374	E4
R3375	D4
R3376	D4
R3377	D1
R3378	D1
R3381	B11
R3382	B11
R3383	B12
R3384	C12
R3385	C12
R3387	A12
R3388	D13
R3393	C14
R3394	C14
R3397	B6
R3401	E5
R3401A	A35
R3402	E5
R3402A	A35
R3403	E6
R3403A	A37
R3404	C62
R3405A	C62
R3405	E6
R3409	B59
R3410	E6
R3411	E7
R3411A	A38
R3412	E7
R3412A	A38
R3413	A38
R3414	B58
R3414A	D64
R3415	D64
R3416	C64
R3417	D7
R3417A	A62
R3418	B62
R3419	B62
R3421	E7
R3422	B63
R3423	E7
R3423A	A64
R3425	B64
R3426	C63
R3427	A63
R3428	A65
R3429	A65
R3430	D9
R3430A	B65
R3432	D16
R3434	D9
R3434A	A65
R3435	D12
R3436	D12
R3437	D11
R3437A	B65
R3438	E13
R3438A	B65
R3439	E14
R3440	E14
R3441	E15
R3442	D16
R3445	D50
R3446	E51
R3447	E51
R3448	D50
R3449	D50
R3450	D51
R3452	D15
R3466	D66
R3467	D66
R3468	D66
R3470	E2
R3471	E2
R3472	E2
R3473	E3
R3476	E3
R3477A	E4
R3478	E13
R3479	E14
R3480	E14
R3481	D12
R3482	D12
R3483	D12
R3483A	B62
R3484	D13
R3484A	B61
R3485	E12
R3487	D11
R3488	D51
R3488A	B63
R3489	E3
R3489A	A62
R3490	E3
R3490A	A66
R3491	E3
R3491A	A66
R3492	B66
R3493	B66
R3498	E2
R3501	D5
R3503	D4
R3504	D4
R3511	D17
R3512	D17
R3513	D17
R3521	D6
R3522	D7
R3523	D7
R3524	D7
R3526	D6
R3527	E5
R3528	D5
R3530	D6
R3601	E43
R3602	E43
R3606	D45
R3619	E44
R3621	E44
R3665	A42
R3701	A46
R3702	B47
R3703	C45
R3704	C47
R3705	C47
R3706	C46
R3707	C46
R3708	B46
R3709	B46
R3710	B45
R3711	A45
R3712	D47
R3713	C45
R3715	D47
R3716	E47
R3717	D45
R3719	E46
R3720	D45
R3721	B46
R3722	D46
R3723	D47
R3724	A46
R3725	B46
R3726	C44
R3727	A45
R3728	B45
R3730	C46
R3731	C46
R3732	C46
R3733	B46
R3734	A47
R3735	B47
R3736	D56
R3737	D56
R3751	D23
R3752	D23
R3754	C23
R3755	C23
R3801	D36
R3802	C38
R3805	C37
R3806	B36
R3807	C36
R3812	C38
R3813	C38
R3814	B39
R3815	B39
R3816	B40
R3817	C39
R3818	C39
R3819	C39
R3820	B40
R3821	C80
R3822	B81
R3823	B80
R3824	C80
R3825	D80
R3826	D80
R3827	D79
R3828	C79
R3829	C79
R3830	B79
R3831	A26
R3831A	B79
R3832	A27
R3832A	B80
R3833	B26
R3833A	C79
R3834	B27
R3834A	C79
R3835	B26
R3836	B27
R3836A	E79
R3839	C81
R3840	D51
R3841	C28
R3842	C28
R3843	B28
R3844	B82
R3845	D52
R3845A	B82
R3849	B81
R3853	B79
R3854	C37
R3855	B35
R3856	C35
R3857	C35
R3858	C35
R3859	B36
R3860	C36
R3861	A30
R3862	B30
R3863	B30
R3864	A30
R3864A	B79
R3865	B30
R3866	B30
R3866A	E79
R3869	D30
R3870	C30
R3870A	B80
R3871	D30
R3871A	B81
R3872	E30
R3872A	B80
R3873	E30
R3874	D30
R3875	A31
R3876	C29
R3877	A31
R3878	D30
R3880	C31
R3882	A32
R3886	A25
R3888	B25
R3890	B25
R3890A	E58
R3901	B49
R3902	A49
R3913	B51
R3917	C54
R3920	E35
R3921	E35
R3922	D36
R3923	C51
R3923A	C38
R3924	C51
R3924A	D34
R3925	C51
R3925A	E37
R3926	B50
R3926A	E36
R3927	E36
R3928	C50
R3930	E38
R3931	B49
R3931A	E38
R3932	B49
R3933	B70
R3934	B70
R3936	B69
R3937	A69
R3938	C70
R3942	D55
R3942A	B72
R3943	C54
R3943A	B72
R3944	C53
R3944A	B73
R3945	B71
R3946	B71
R3947	D55
R3947A	B71
R3948	A72
R3949	B73
R3950	B74
R3951	B74
R3952	B74
R3953	B9
R3955	B9
R3957	C50
R3957A	A74
R3958	C50
R3958A	D35
R3959	D55
R3961	D55
R3961A	D35
R3962	C54
R3962A	C37
R3963	C52
R3964	A75
R3965	C55
R3965A	A74
R3966	C55
R3967	D55
R3968	D54
R3968A	E36
R3969	D54
R3969A	D34
R3970	C55
R3970A	D34
R3971	B74
R3972	B75
R3977	C49
R3978	B55
R3979	B55
R3986	B54
R3987	B54
R3989	D15
R3991	B54
R3992	B54
R3993	B55
R3994	B55
R3996	A50
R3997	E54
RM1002	A17
RY1931	B50
S1000	B17
S1091	B17
S1092	B17
S1093	B17
S1094	B17
SF1451	B3
SF1901	A71
SG01	C33
SG02	B33
SG03	C41
SG04	C41
SG06	E48
SG07	D48
SG1202	E45
SG1203	D41
SG1204	E45
SG1205	B41
SG1211	D15
SG1212	A34
SG1212	B34
SG1212	D33
SG1214	D41
SG1216	B41
SG1701	C48
SG1701	C48
SG1704	D24
SG1705	C24
SP1	A48
SP2	B48
SP1901	A50
T5431	D10
T5431	D50
T5912	A53
TH3911	A51
TU1225	B2
TU1900	A70
V1010	B28
X1057	A21
X1327	B12
X1333	B10
X1630	E44
X1800	D80
X1801	D80
X1802	D78
X1902	D35
ZD6031	C17
ZD6201	C10
ZD6202	C10
ZD6203	C10
ZD6204	C10
ZD6205	A34
ZD6206	A34
ZD6207	A33
ZD6208	B33
ZD6267	B1
ZD6268	B1
ZD6279	C11
ZD6291	E48
ZD6292	E48
ZD6293	D48
ZD6294	D48
ZD6464	E13
ZD6468	E3
ZD6472	E2
ZD6481	B59
ZD6837	D13
ZD6838	D13
ZD6869	A30
ZD6890	E58
ZD6921	B51
ZD6966	C55
ZD6977	E55

AUDIO SCHEMATIC



A B

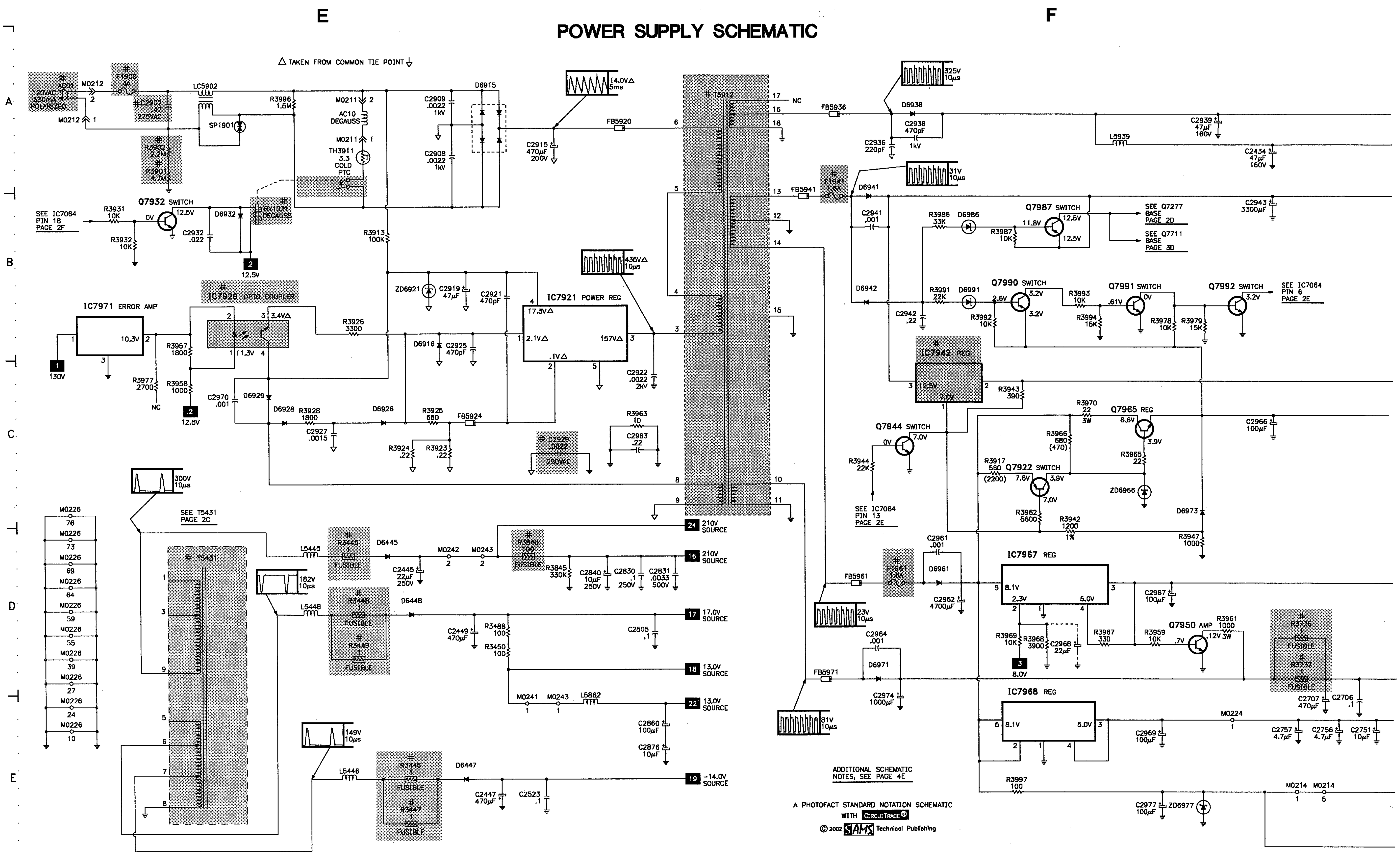
COMB FILTER SCHEMATIC



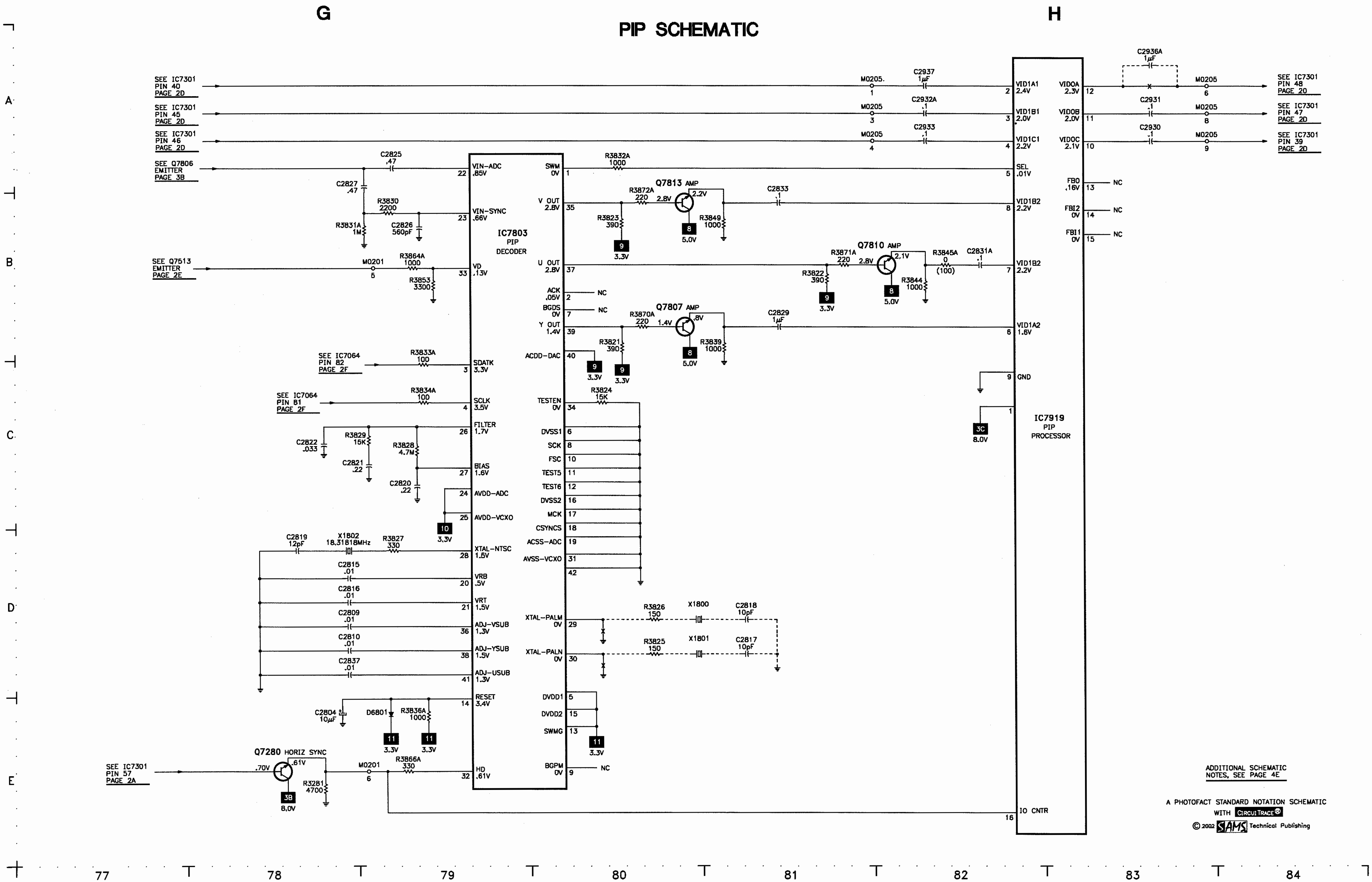
ADDITIONAL SCHEMATIC NOTES, SEE PAGE 4E

A PHOTOFACT STANDARD NOTATION SCHEMATIC WITH CIRCUITTRACE®

POWER SUPPLY SCHEMATIC



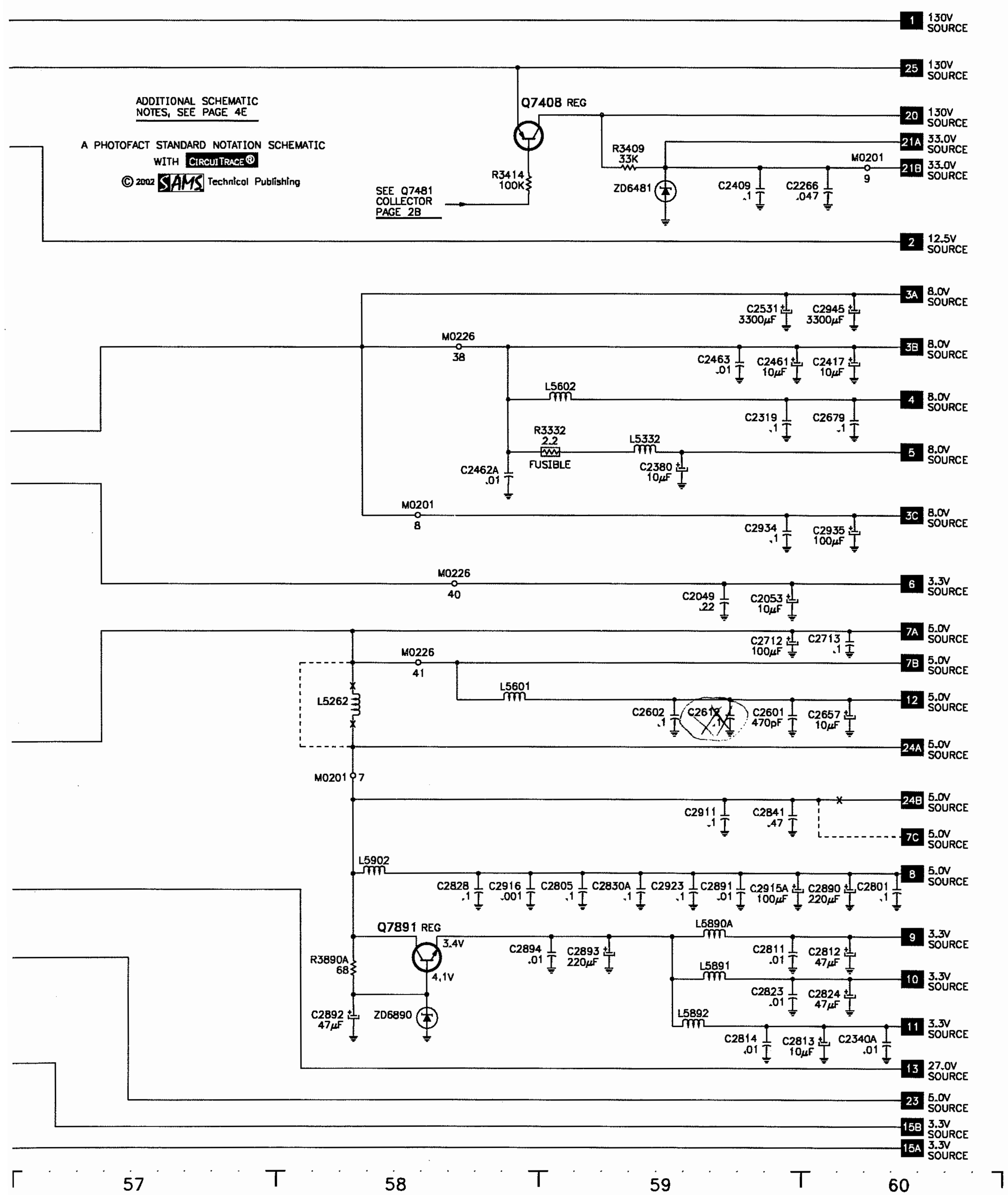
PIP SCHEMATIC



PHILIPS

MODEL 27PT81S125 (CHASSIS 27H8)

G POWER SUPPLY SCHEMATIC continued

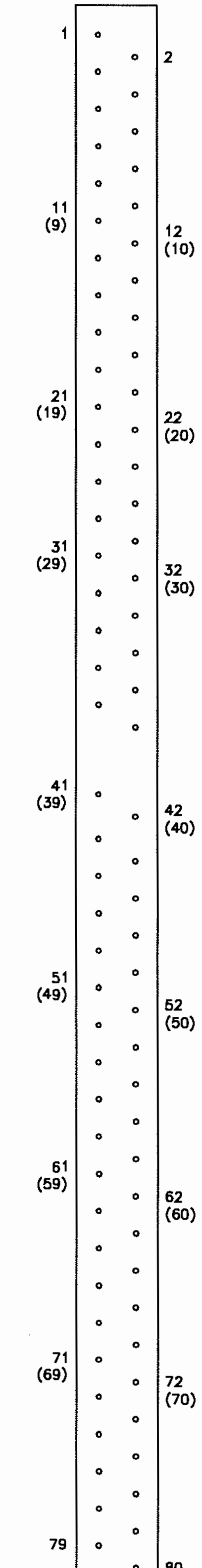


M0226 CONNECTOR INFORMATION

M0226 VOLTAGE CHART

PIN	VOLTAGE	PIN	VOLTAGE
1	0V	41	4,9V
2	3,2V	42	2,0V
3	3,4V	43	3,2V
4	.1V	44	.17V
5	2,0V	45	2,1V
6	2,0V	46	2,4V
7	0V	47	3,1V
8	0V	48	2,2V
9	0V	49	.7V
10	0V	50	4,2V
11	0V	51	0V
12	0V	52	.85V
13	0V	53	.87V
14	0V	54	0V
15	0V	55	.5V
16	.06V	56	3,1V
17	4,3V	57	3,1V
18	4,3V	58	3,5V
19	3,2V	59	0V
20	0V	60	5,2V
21	0V	61	DV
22	0V	62	.5V
23	0V	63	2,5V
24	0V	64	0V
25	0V	65	2,0V
26	0V	66	2,0V
27	0V	67	0V
28	0V	68	0V
29	0V	68	0V
30	.04V	70	1,3V
31	0V	71	0V
32	.05V	72	1,8V
33	.1V	73	0V
34	3,4V	74	.15V
35	3,3V	75	.1V
36	4,9V	76	0V
37	0V	77	1,5V
38	8,2V	78	0V
39	0V	79	0V
40	3,3V	80	DV

M0226 TERMINAL GUIDE

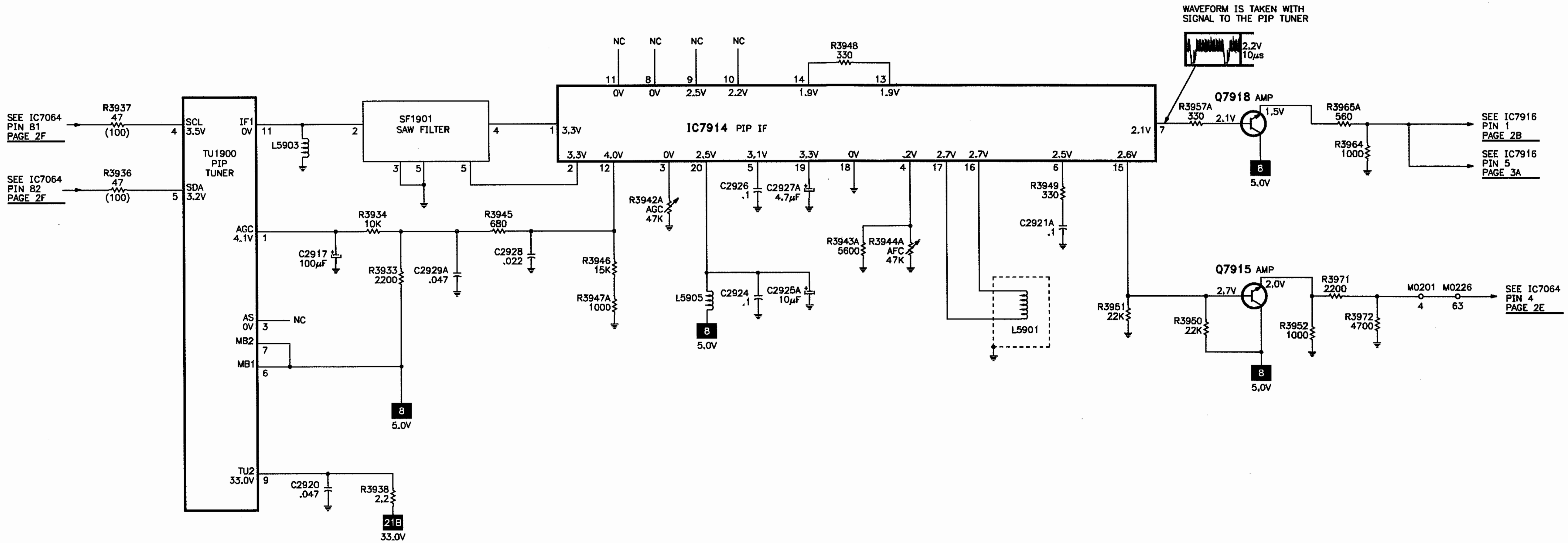


NUMBERS MARKED ON THE BOTTOM OF THE BOARD ARE SHOWN IN (). ACTUAL NUMBERS ARE SHOWN WITHOUT ().

PHILIPS MODEL 27PT81S125 (CHASSIS 27H8)

E F

PIP TUNER/IF SCHEMATIC



A PHOTOFACT STANDARD NOTATION SCHEMATIC WITH CIRCUITTRACE®

SCHEMATIC NOTES

- \# For SAFETY use only equivalent replacement part, see parts list.
- Circuitry not used in some versions.
- ---- Circuitry used in some versions.
- Ground
- Chassis ground
- Common tie point
- △ Taken from common tie point
- 3 Schematic CIRCUITTRACE® Voltage source tie point.
- A — Cabling: Heavy lines reduce use of multiple lines.

Waveforms and voltages are taken from ground, unless otherwise noted.
Waveforms taken with triggered scope and colorbar signal.
Waveform voltage is peak to peak. Timebase is per division. Waveforms shown at 10 divisions.
Supply voltages maintained as seen at input.
Voltages measured with digital meter and a 1000µV RF signal, with colorbar pattern applied to antenna terminal.
Controls adjusted for normal operation.
Capacitors are 50 volts or less, 5% or greater unless noted.
Electrolytic capacitors are 50 volts or less, 20% or greater unless noted.
Resistors are 1/2W or less, 5% or greater unless noted.
Value in ( ) used in some versions.
Measurements with switching as shown unless noted.
Rated voltage shown on zener diodes.

69 70 71 72 73 74 75 76

MISCELLANEOUS ADJUSTMENTS

B+ CHECK

Tune in a picture. Set picture and brightness to normal. Connect a digital voltmeter to L5559. Check for 129.0V ±1.0V.

CONVERGENCE / PURITY

The deflection yoke is bonded to the CRT. Convergence and purity adjustments are not required.

SERVICE ALIGNMENT MODE (SAM) INFORMATION

To enter Service Alignment Mode, turn the receiver on, then press 0, 6, 2, 5, 9, 6, and press the status button on the remote, without allowing time out between key entries. The first menu is the main menu, with four selections in the main menu.

At any time within the menus, pressing the menu button will display the main menu. If the exit item is selected, the receiver will display the previous menu.

Press menu button for next menu. Press adjust right/left to either turn selection on/off or to proceed to next menu. Press the adjust up/down to make a selection.

NOTE: Only four selections are displayed at a time. Use arrow up/down buttons for more.

A10US1 - 1.6 SAM

AKB	ON
VSD	OFF
M-LINK TEST	>
TUNER	>
WHITE TONE	>
GEOMETRY	>
SMART SETTING	>

NOTE: The following chart contains specific information to the TUNER selection on the main menu.

A10US1 - 1.6 SAM

AKB	ON		
VSD	OFF		
M-LINK TEST	>		
TUNER	>>>>>	IF-PLL Offset	31
WHITE TONE	>	AFW	250kHz
GEOMETRY	>	AGC	17
SMART SETTING	>		
		AFA	1
		AFB	0

NOTE: The following chart contains specific information to the SMART SETTING selection on the main menu. The four selections below will be displayed on the screen one at a time.

A10US1 - 1.6 SAM

AKB	ON					
VSD	OFF					
M-LINK TEST	>					
TUNER	>					
WHITE TONE	>					
GEOMETRY	>					
SMART SETTING	>>>>>		Movie	Sport	Weak	Multi
		BGT	49	50	50	40
		COL	34	34	28	46
		PIC	68	96	51	58
		SHP	60	60	30	45
		HUE	50	50	50	50

NOTE: The following chart contains specific information to the WHITE TONE selection on the main menu. Tune in a white raster pattern.

A10US1 - 1.6 SAM

AKB	ON			
VSD	OFF			
M-LINK TEST	>			
TUNER	>			
WHITE TONE	>>>>>	The items below will be displayed on the screen one at a time.		
GEOMETRY	>			
SMART SETTING	>	Delta Warm		
		Delta Cool		
		Normal		
		Normal >>>>>	Red	32
			Green	34
			Blue	33
		Delta Cool >>>>>	Red	0
			Green	-2
			Blue	6
		Delta Warm >>>>>	Red	0
			Green	-6
			Blue	-12
		Cathode Dr >>>>>		9

The following chart contains specific information to the GEOMETRY selection on the main menu. Tune in a crosshatch pattern.

A10US1 - 1.6 SAM

AKB	ON
VSD	OFF
M-LINK TEST	>
TUNER	>
WHITE TONE	>
GEOMETRY	>>>>> The items below will be displayed on the screen one at a time.

VER-AMPL	25	Adjust for vertical height.
VER-SLOPE	10	Adjust for vertical centering.
SERV-BLK	Off	Service blanking / no vertical sweep 1 = On/0 = Off.
HOR-SHIFT	35	Adjust for horizontal centering.
HOR-BOW	40	Adjust for straight horizontal lines on top and bottom.
HOR-PARA	26	Adjust for straight vertical lines on top and bottom.
EW-WIDTH	40	Adjust for best horizontal width.
EW-PARA	26	Adjust for straight vertical lines on both sides.
EW-TRAP	5	Adjust for straight vertical lines at the middle.
EW-UCORN	23	Adjust for straight vertical lines on upper corners.
EW-LCORN	38	Adjust for straight vertical lines on lower corners.
H60-WIDTH	13	Not used.
H60-PARA	6	Not used.
H60-SHIFT	13	Not used.
V60-AMPL	4	Not used.
VER-SCOR	26	Adjust for same size squares at top and bottom.
VER-SHIFT	12	Adjust for vertical centering.
VER-ZOOM	33	Adjust for vertical height.
VER-SCOLL	31	Adjust for best vertical linearity.

SERVICE DEFAULT MODE (SDM) INFORMATION

To enter service default mode, turn the receiver on, then press 0, 6, 2, 5, 9, 6, and press the menu button on the remote, without allowing time out between key entries. When the status button is pressed the first two lines will be displayed on the screen, indicating the Run time, the Software ID number, and the most recent Errors that happened on the set.

SERVICE ALIGNMENT MODE (SAM) INFORMATION

In the Service Alignment Mode, all the following information will be diplayed.

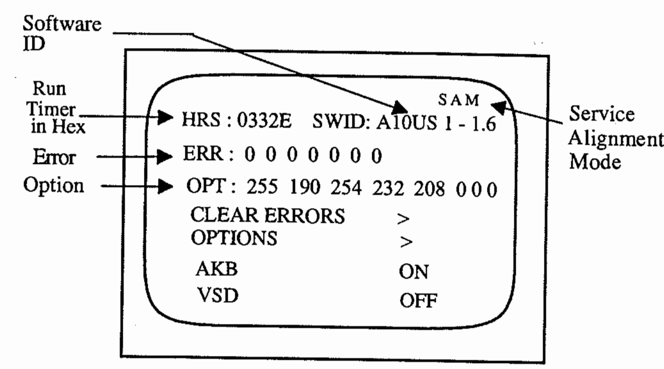
The first number (0332) is a run timer. The display will increment based on the amount of time the receiver has been on.

The second number (A10US1 - 1.6) is the software ID (A10), the software version (US) for the USA, and the cluster number (1) for English language, and (1.6) for the version number.

The letters SAM indicate that the Service Alignment Mode is active.

The next line shows the Option bytes of OB1 thru OB8.

The next line shows the error code number. The most recent errors will be displayed next to ERR. See table below for error codes information.



ERROR CODES

No.	Description
0	No error.
1	X-Ray protection / EW protection / High beam current protect active.
2	Vertical protect active / IC7501, Check +13V, and -13V supply.
3	Reserved.
4	5V supply line is low or short circuit.
5	Reserved.
6	General I2C Bus error.
7	BC-Loop (RGB driving signals of BOCMA) not stabilized.
8	BOCMA (signal processor) I2C error IC7301 on SSB.
9	BOCMA (signal processor) 8V supply error,/ IC7301, R3331 on SSB.
10	NVM I2C error / IC7066.
11	NVM identification failure / IC7066.
12	u Processor internal RAM test failure / IC7064.
13	I2C error, Main Tuner error (PLL) / item 1225 - UV13xx
14	Sound processor I2C error / MSP3400 or MSB3410 does not respond.
15	SRAM (Static Random Access Memory) I2C error / IC7070.
16	PIP Tuner I2C error / IC1900.
17	PIP IC I2C error / IC7803, or Double Window IC SAB9081 I2C error.
18	I/O expander IC62320P I2C error / item 7910 on PIP panel.
19	Guide+ I2C error / IC LC27016B - item 7005.
20	V - Chip for PIP - I2C error.
21	NV clock - I2C error / IC MK41T56 - item 7011.
22	Reserved.
23	Second BOCMA (signal processor) IC I2C communication error / IC7301 (on Double Window PIP panel).

NOTE : I2C = (SCL/SDA).

OPTION CODE AND STATUS

When the Options item is selected a list of codes will be displayed. Each code represents one of the features of the set. Following will be either On or Off, indicating if that feature is active or not.

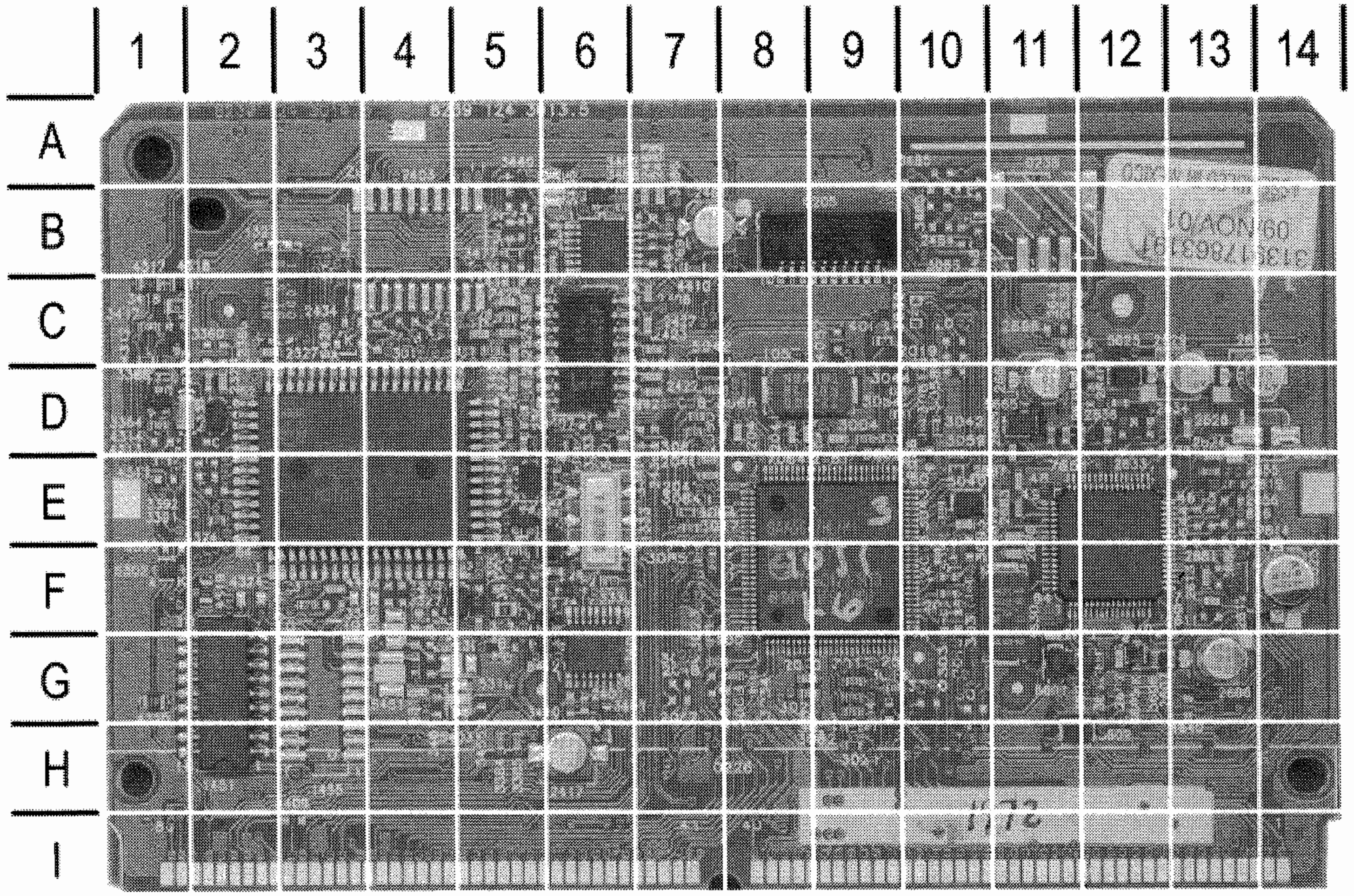
OPTION	OP	Value	On Set Value
SBNP	SBNP	OFF/ON	ON
CVI	CVI	OFF/ON	ON
C169	C169	OFF/ON	ON
E149	E149	OFF/ON	ON
SMCK	SMCK	OFF/ON	ON
AV3	AV3	OFF/ON	ON
CBFL	CBFL	OFF/ON	ON
IPIX	IPIX	OFF/ON	ON
IPMU	IPMU	OFF/ON	ON
VDBY	VDBY	OFF/ON	OFF
PLST	PLST	OFF/ON	ON
SOSD	SOSD	OFF/ON	ON
BLMU	BLMU	OFF/ON	ON
PIPC	PIPC	OFF/ON	ON
PIPT	PIPT	OFF/ON	ON
VSLC	VSLC	OFF/ON	OFF
MLNK	MLNK	OFF/ON	ON
SURF	SURF	OFF/ON	ON
CCAP	CCAP	OFF/ON	ON
DNRM	DNRM	OFF/ON	ON
VMUT	VMUT	OFF/ON	ON
TIME	TIME	OFF/ON	ON
AAVL	AAVL	OFF/ON	ON
FUNN	FUNN	OFF/ON	OFF
SPKC	SPKC	OFF/ON	ON
VCBK	VCBK	OFF/ON	ON
VBNR	VBNR	OFF/ON	ON
USRC	USRC	OFF/ON	OFF
BNUM	BNUM	OFF/ON	ON
ROT1	ROT1	OFF/ON	OFF
SN1C	SN1C	OFF/ON	OFF
TMWIN	TMWIN	OFF/ON	OFF
AOUT	AOUT	OFF/ON	ON
INCF	INCF	OFF/ON	ON
APC	APC	OFF/ON	OFF
NVM	NVM	OFF/ON	ON

NOTE: Option Byte 1 through 8 are to be set at the factory for feature listing for each chassis. Each can be set to value 0 - 255. The first eight features are the total value of Option Byte 1, the next eight features are the total value of Option Byte 2, and so on. Option Bytes 6, 7, and 8 values are reserved. Changing any feature setting will change the value of the related option.

WARNING: Before making changes to any value, record On Set Value for all the options.

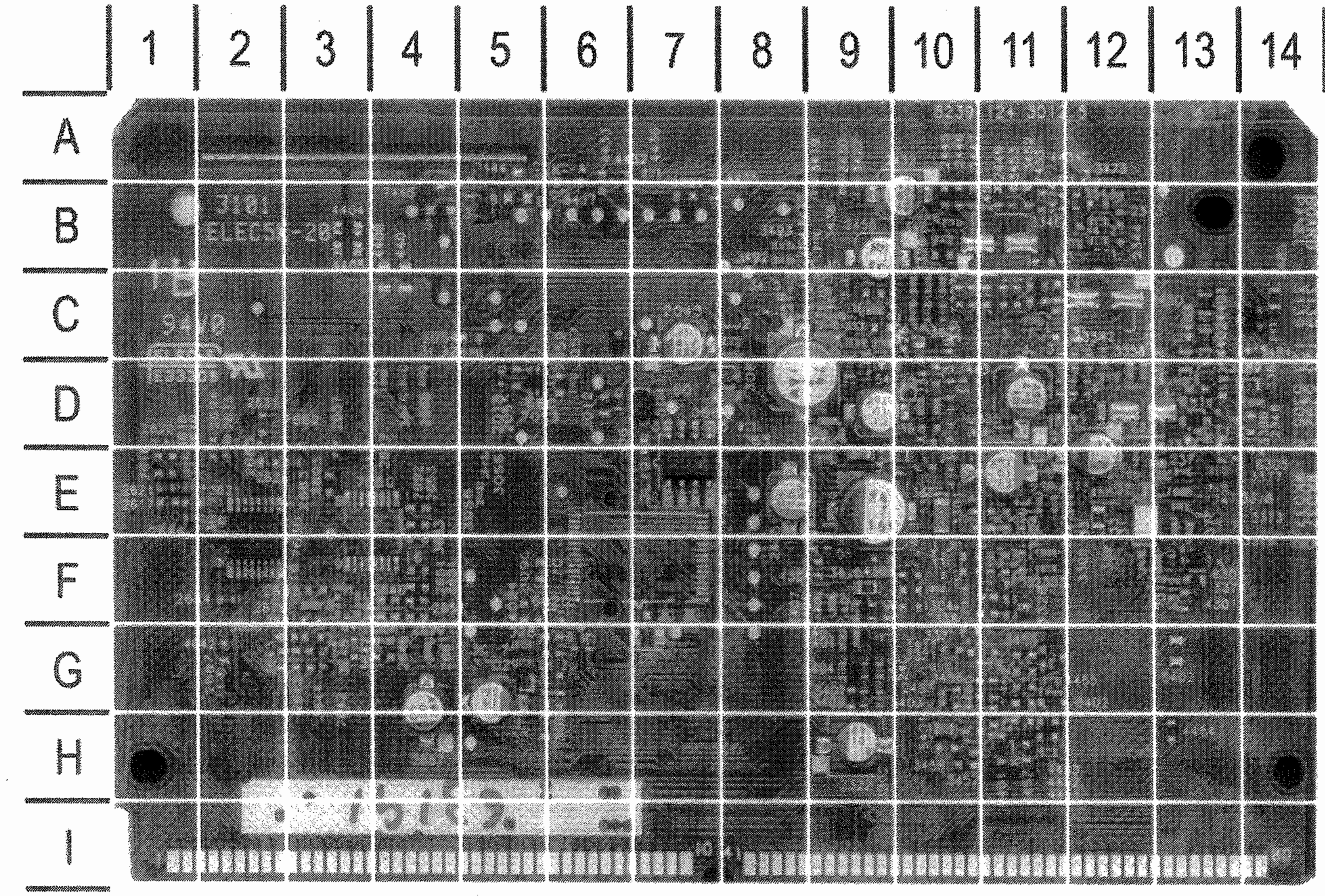
Option Byte 1	OB1	255
Option Byte 2	OB2	190
Option Byte 3	OB3	254
Option Byte 4	OB4	232
Option Byte 5	OB5	208
Option Byte 6	OB6	0
Option Byte 7	OB7	0
Option Byte 8	OB8	0

SMALL SIGNAL BOARD - TOP VIEW



A SAMS Technical Publishing GRIDTRACE™ PHOTO

SMALL SIGNAL BOARD - BOTTOM VIEW



A SAMS Technical Publishing GRIDTRACE™ PHOTO

SMALL SIGNAL BOARD - TOP VIEW, GRIDTRACE LOCATION GUIDE

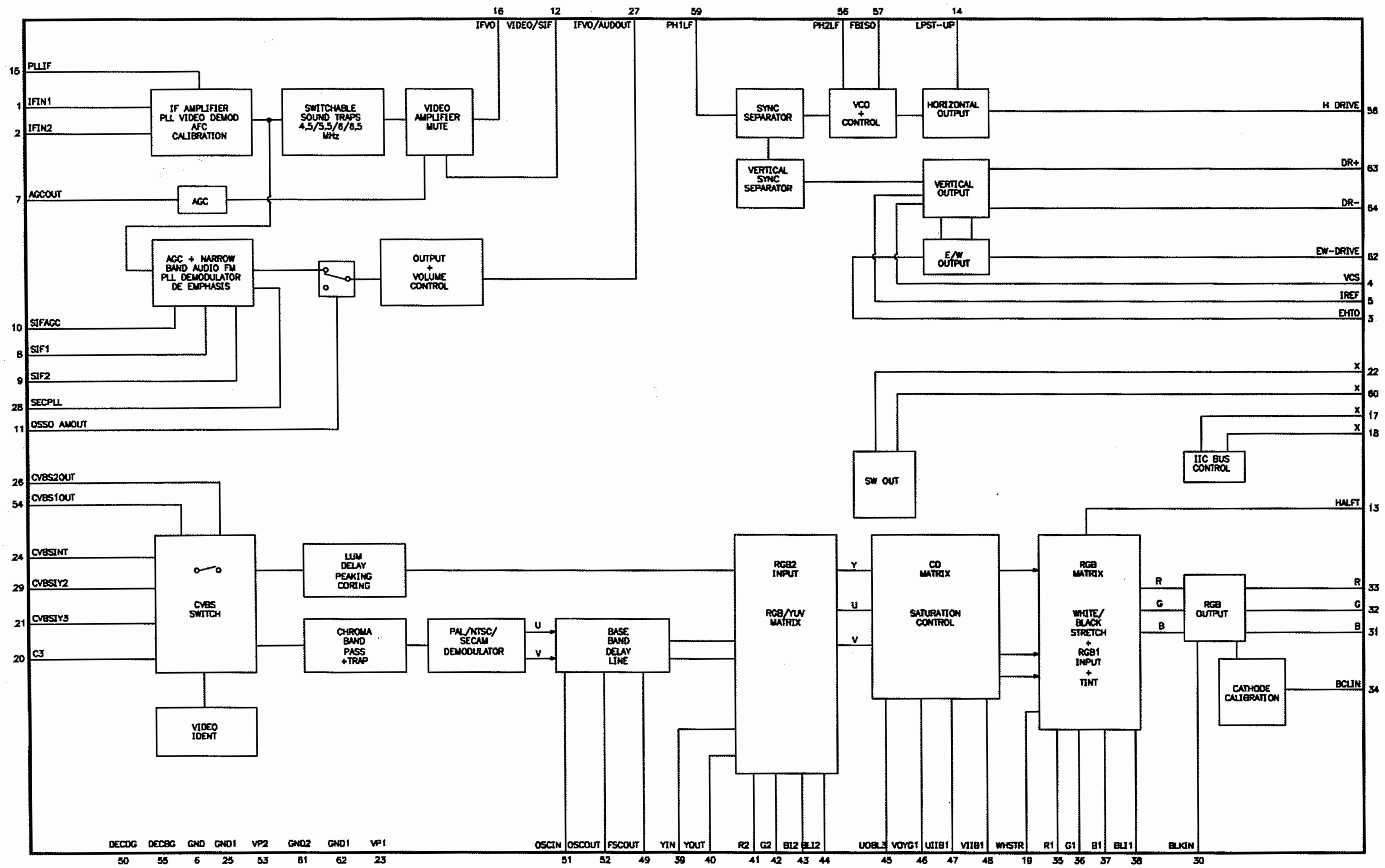
C2010	G8	C2381	E6	C2623	D14	IC7301	E3	Q7425	B6	R3045	H10	R3385	H5
C2014	F10	C2401	G6	C2624	E13	IC7401	G6	Q7442	A5	R3046	G9	R3388	D1
C2015	F10	C2417	H6	C2625	F14	IC7405	D6	R3003	D9	R3051	F10	R3401A	G6
C2016	F10	C2421	D7	C2628	D13	IC7407	B6	R3004	D9	R3054	D9	R3413	F5
C2017	E10	C2422	D7	C2629	D13	IC7651	F11	R3008	G9	R3058	D10	R3414A	F5
C2041	D8	C2423	C7	C2636	D12	L5040	E10	R3009	G7	R3059	E10	R3415	F5
C2042	D8	C2424	D5	C2638	D12	L5042	D7	R3013	G9	R3061	D10	R3417A	C1
C2045	E7	C2425	C5	C2639	D11	L5309	F5	R3014	G9	R3062	H9	R3418	C1
C2046	E7	C2427	C7	C2640	D12	L5332	E5	R3015	G9	R3064	E7	R3425	C5
C2050	D8	C2428	C5	C2641	D11	L5333	D2	R3017	E7	R3066	D7	R3426	C5
C2051	D9	C2437	C5	C2655	E13	L5334	E6	R3018	F7	R3084	E7	R3466	B7
C2053	G5	C2438	C5	C2662	D11	L5421	D6	R3019	F7	R3085	F7	R3467	B6
C2301	D5	C2461	B7	C2663	E11	L5601	G11	R3021	H9	R3086	D7	R3468	B6
C2306	C7	C2462A	B7	C2665	E11	L5602	H11	R3022	G8	R3088	D7	R3477	B5
C2309	F5	C2463	B7	C2667	E11	L5625	D12	R3023	F7	R3307	F5	R3601	G12
C2311	B5	C2499	B6	C2675	E11	L5665	D11	R3024	G9	R3316	F3	R3602	G12
C2316	F3	C2601	G11	C2676	F11	M0205	B9	R3030	C10	R3331	D1	R3606	G12
C2317	D5	C2602	G12	D6031	D8	M0226	I14	R3031	F10	R3333	D6	SF1451	H2
C2319	E5	C2606	G13	D6302	F1	Q7307	E5	R3034	G8	R3335	F6	X1057	D8
C2327	C2	C2607	G12	D6412	G5	Q7331	D5	R3035	F10	R3348	C5	X1327	C3
C2328	D2	C2612	F13	D6415	F6	Q7368	D1	R3042	D10	R3364	D1	X1333	E6
C2333	D2	C2613	F13	D6605	G12	Q7412	F5	R3043	E10	R3374	E2	X1630	F11
C2350	D11	C2619	E13	IC7064	F8	Q7421	C1	R3044	D9	R3384	H5		

SMALL SIGNAL BOARD - BOTTOM VIEW, GRIDTRACE LOCATION GUIDE

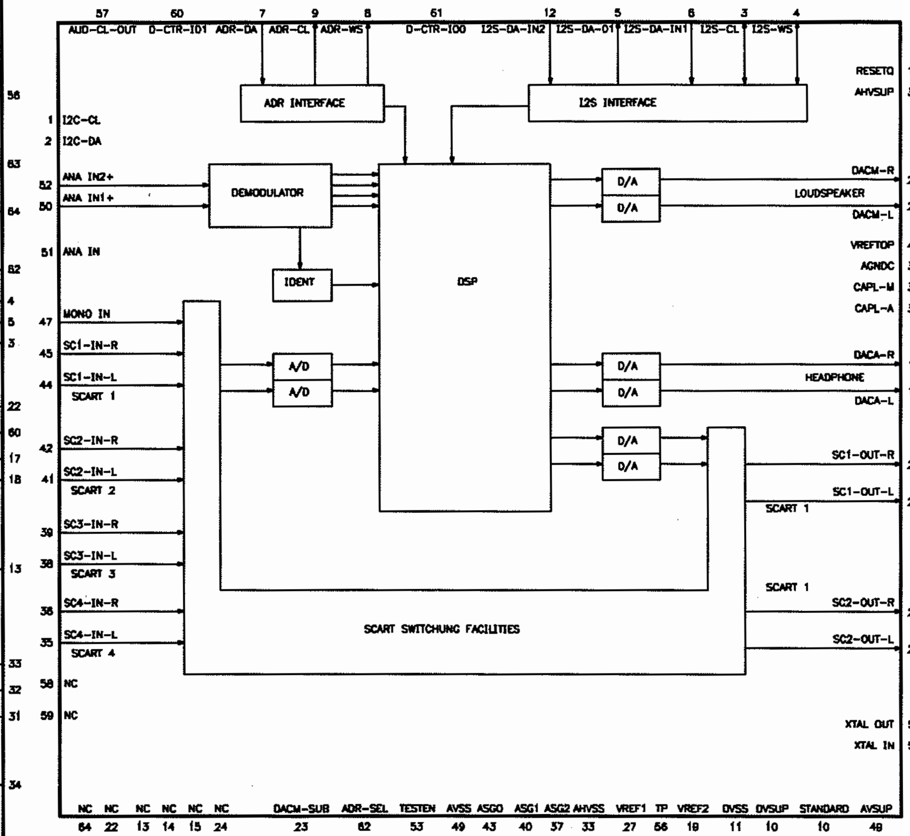
C2018	D5	C2356	D12	C2457	D9	L5041	D7	R3312	F13	R3381	D12	R3438A	B9
C2043	C7	C2357	D12	C2458	B9	L5401	H10	R3315	E12	R3382	D12	R3483A	C14
C2049	D7	C2373	E12	C2465	D14	L5422	D9	R3324	E11	R3383	D11	R3484A	C14
C2302	F11	C2374	E13	C2620	D1	L5425	E9	R3327	G10	R3387	C10	R3488A	B10
C2303	F11	C2375	E13	C2621	E1	L5426	C10	R3329	F11	R3393	E12	R3489A	B10
C2312	F13	C2376	E13	C2635	D2	Q7053A	D5	R3330	F10	R3394	E12	R3490A	C9
C2313	F10	C2377	E13	C2637	D3	Q7063	C6	R3332	E10	R3397	E9	R3491A	C9
C2314	E12	C2380	E11	C2642	G3	Q7415A	C8	R3339	E10	R3402A	G9	R3492	B8
C2321	E11	C2382	D8	C2657	H4	Q7446	C14	R3340	E10	R3403A	G9	R3493	B8
C2322	H9	C2402	G9	C2661	G4	R3002	G5	R3341	D10	R3404	G9	R3619	E1
C2323	C10	C2403	G9	C2664	D4	R3007	G5	R3344	D12	R3405A	F9	R3621	E1
C2324	E11	C2404A	G9	C2666	D4	R3055	E5	R3358	D12	R3411A	G9	R3665	D4
C2325	C10	C2405	G9	C2678	G2	R3056	E5	R3361	C10	R3412A	F9	C2372	E12
C2326	C10	C2407	F9	C2679	F3	R3057	D6	R3362	C10	R3416	F9		
C2332	D12	C2408	F9	C2682	D3	R3065	D8	R3363	C10	R3419	B9		
C2334	D13	C2413	E9	C2683	E3	R3081	D6	R3365	D14	R3422	B9		
C2335	D11	C2430	B9	C2684	F2	R3082	C8	R3371	E12	R3423A	C9		
C2338	E13	C2431	C9	C2685	D2	R3083	B8	R3372	F10	R3427	C11		
C2342	D10	C2432	B10	C2686	E1	R3092	C5	R3373	E13	R3428	C9		
C2345	D12	C2435	E8	C2687	G2	R3301	E10	R3375	E13	R3429	C9		
C2348	D14	C2439	D10	D6303	F13	R3302	E11	R3376	E13	R3430A	C8		
C2354	D11	C2440	D9	IC7066	E7	R3305	F12	R3377	E13	R3434A	C9		
C2355	D12	C2453	G10	IC7630	E2	R3311	F12	R3378	E13	R3437A	B8		

IC FUNCTIONS

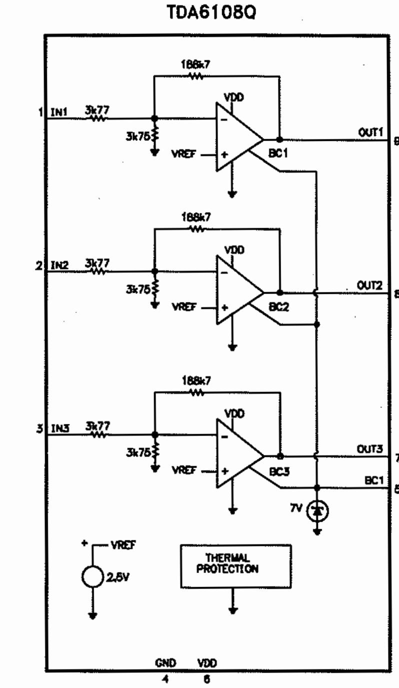
IC7301
TDA8885/7/9



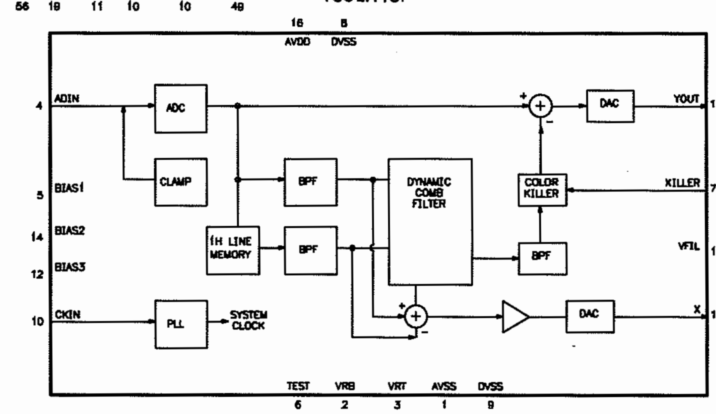
IC7651
MSP3435



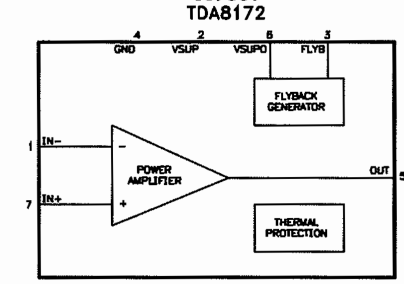
IC7830
TDA6108Q



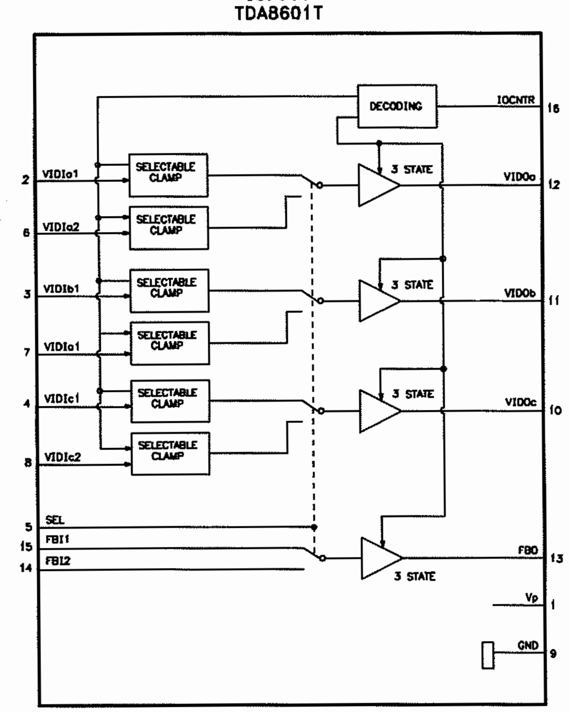
IC7405
TC90A4SF



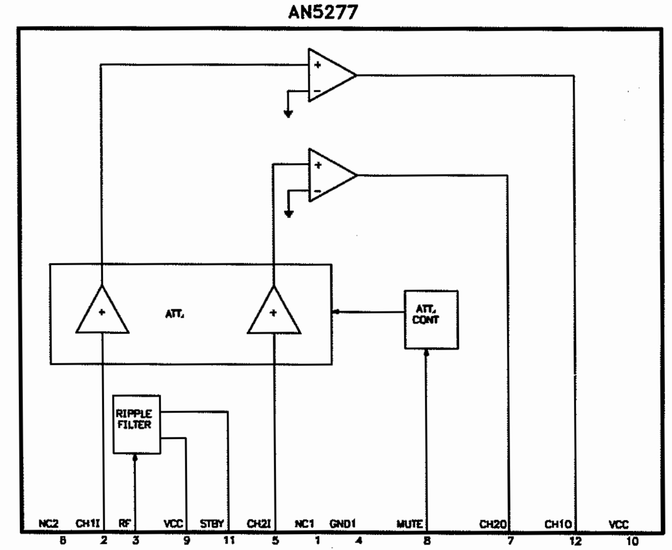
IC7501
TDA8172



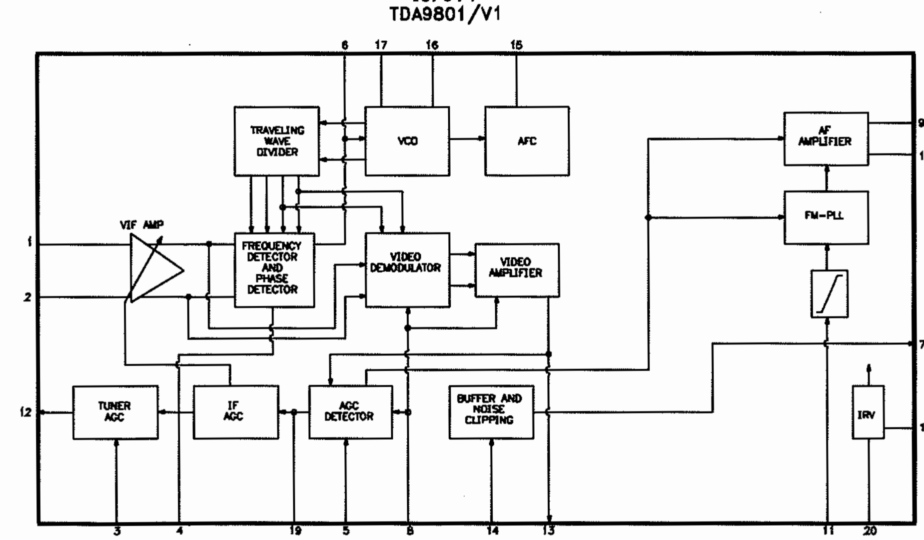
IC7919
TDA8601T



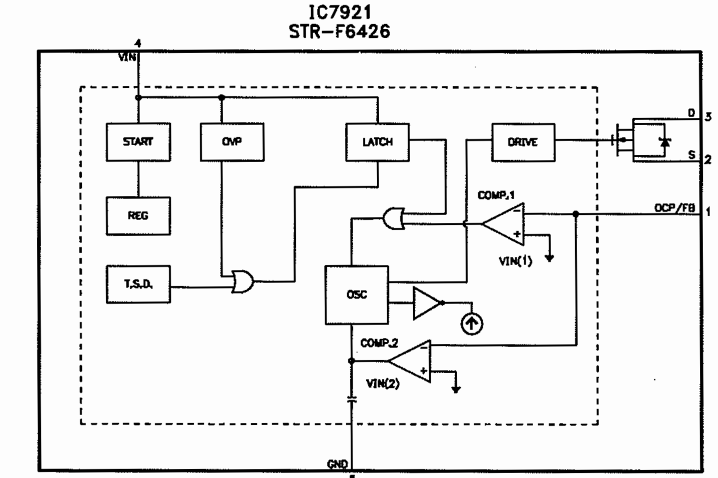
IC7702
AN5277



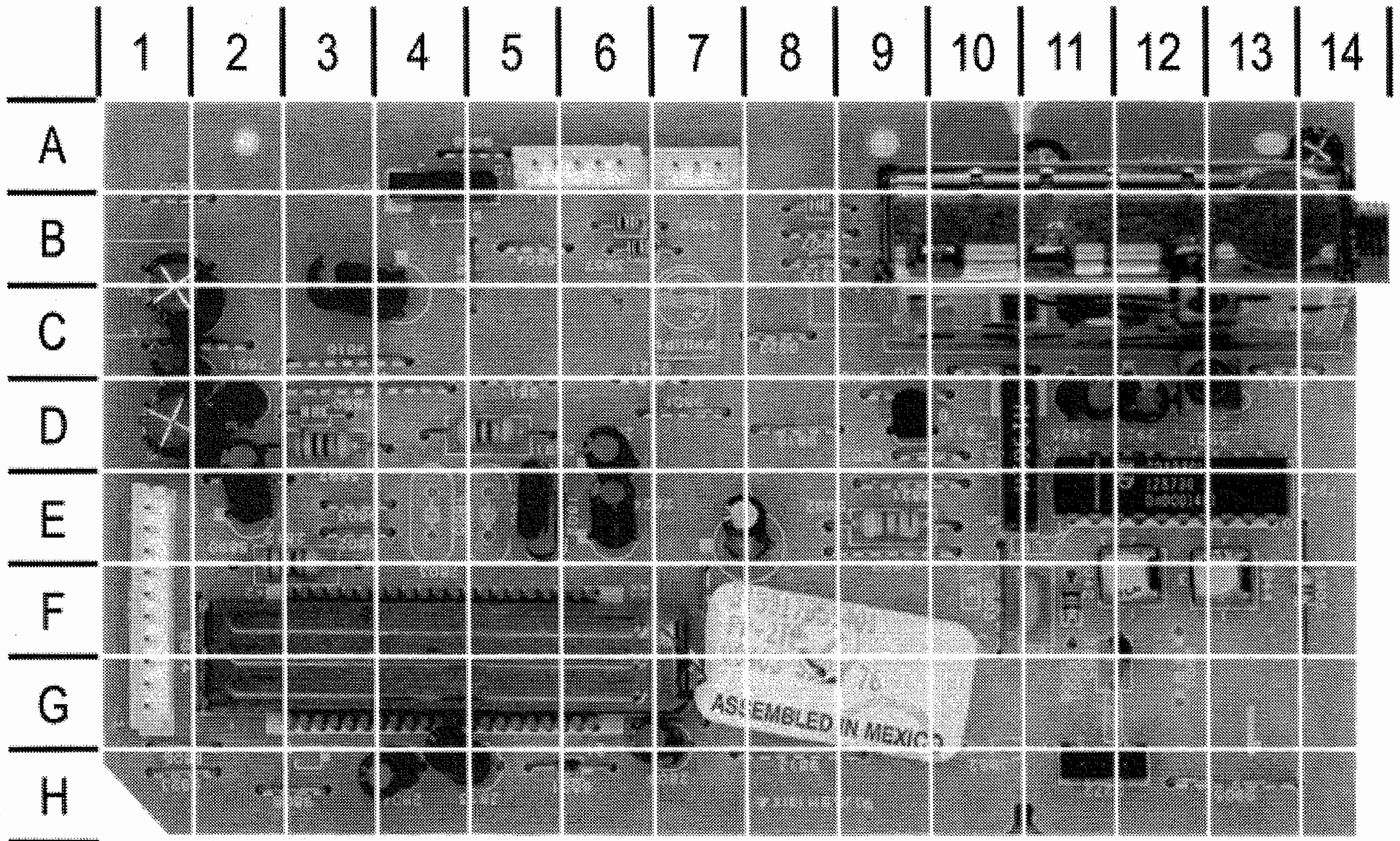
IC7914
TDA9801/V1



IC7921
STR-F6426



PIP BOARD - TOP VIEW

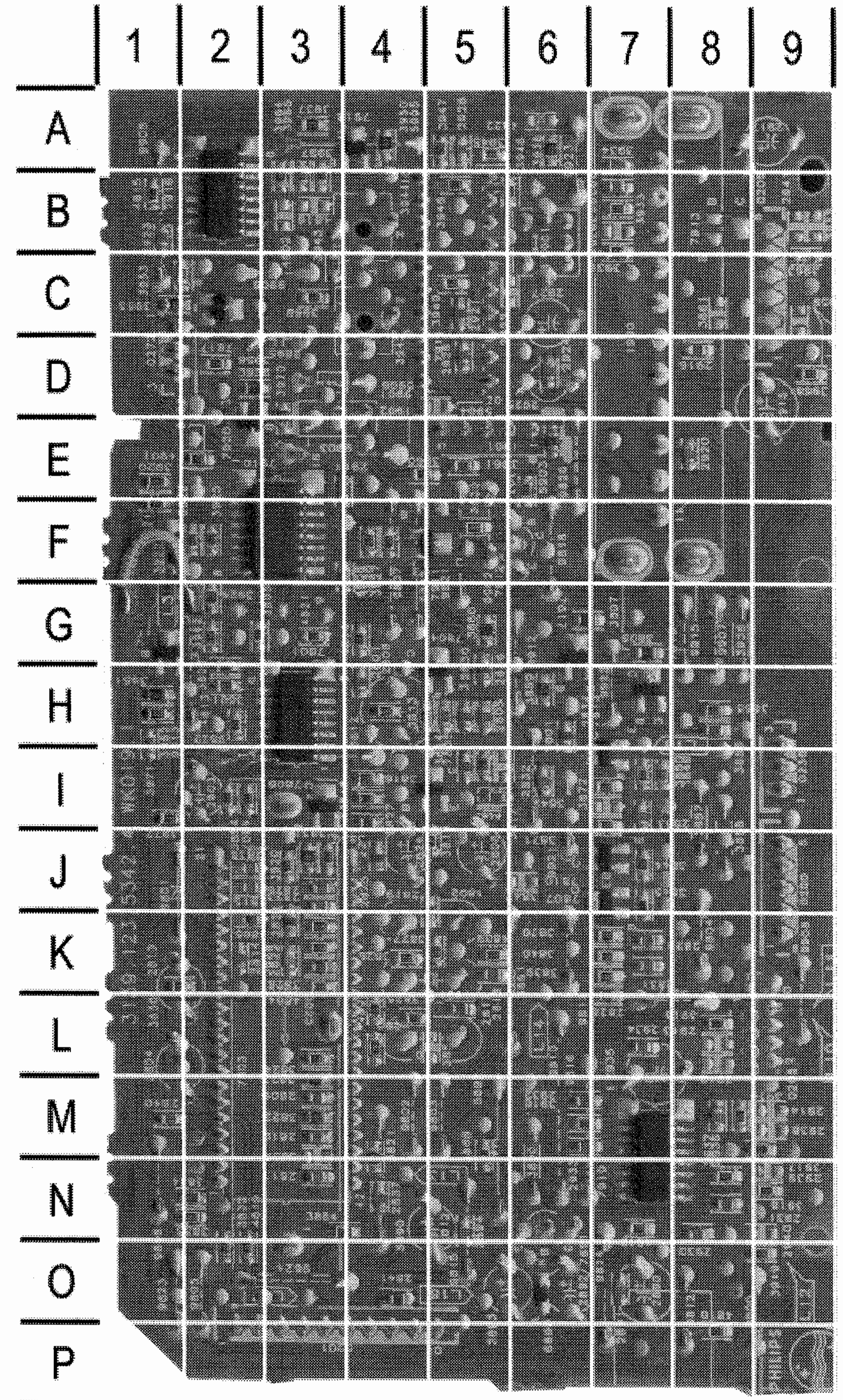


A SAMS Technical Publishing GRIDTRACE™ PHOTO

PIP - TOP VIEW, GRIDTRACE LOCATION GUIDE

C2803	G6	C2925A	D11	M0200	A5	R3944A	F13
C2804	H4	C2927A	D12	M0201	G1	SF1901	D10
C2806	E7	C2935	B3	M0205	A4	TU1900	B12
C2808	D6	D6801	H6	M0214	D4	X1802	E5
C2812	D2	IC7803	G3	M0236	A7	X1902	F11
C2813	H4	IC7914	E11	M0272	H12		
C2824	E6	L5906	F11	Q7891	D2		
C2890	C1	L5890	E3	Q7912	D9		
C2892	C1	L5891	D5	R3857	B6		
C2893	D1	L5892	D3	R3858	B6		
C2895	F12	L5901	D13	R3890A	D3		
C2915	A11	L5902	E9	R3938	B8		
C2917	A14	L5905	F14	R3942A	F12		

PIP BOARD - BOTTOM VIEW

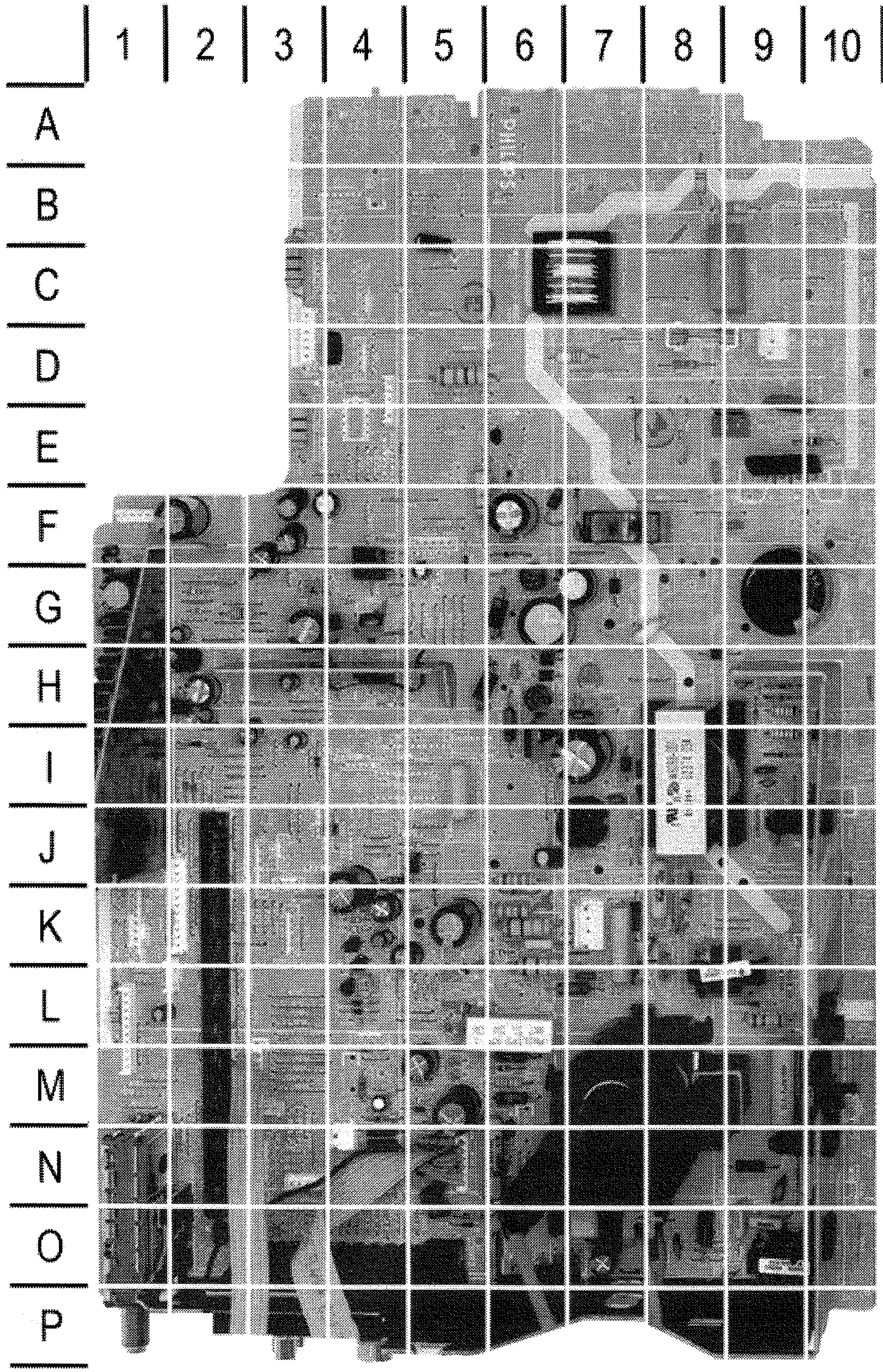


A SAMS Technical Publishing GRIDTRACE™ PHOTO

PIP BOARD - BOTTOM VIEW, GRIDTRACE LOCATION GUIDE

C2801	H4	R3814	H5
C2805	H5	R3815	I5
C2807	I5	R3816	I4
C2809	M3	R3817	I5
C2810	M3	R3818	I4
C2811	N3	R3819	J5
C2814	K2	R3820	J3
C2815	J2	R3821	N4
C2816	J2	R3822	M3
C2817	L5	R3823	M3
C2818	K5	R3824	L3
C2819	J5	R3825	L4
C2820	K3	R3826	K4
C2821	K3	R3827	K5
C2822	K3	R3828	K3
C2823	J3	R3829	K3
C2825	J4	R3830	J3
C2826	J3	R3831A	J3
C2827	I4	R3832A	O2
C2828	L7	R3833A	N2
C2829	K7	R3834A	N2
C2830A	H5	R3836A	K1
C2831A	K7	R3839	K7
C2832	I6	R3844	J7
C2833	I7	R3845A	J7
C2834	H6	R3849	I7
C2836A	H5	R3853	L4
C2837	N4	R3854	I2
C2840A	M1	R3855	H8
C2841	O4	R3856	H8
C2891	O7	R3859	H6
C2894	N5	R3860	G5
C2911	F4	R3864A	N3
C2916	D8	R3866A	M5
C2920	E8	R3870A	K7
C2921A	C5	R3871A	I7
C2923	B1	R3872A	I7
C2924	D6	R3920	E1
C2926	D5	R3921	F1
C2928	A5	R3922	F1
C2929A	B7	R3923A	F2
C2930	N8	R3924A	G2
C2931	N8	R3925A	F2
C2932A	M6	R3926A	F4
C2933	M6	R3927	F4
C2934	L7	R3930	F5
C2937	M8	R3931A	E6
IC7801	H3	R3933	B7
IC7910	F3	R3934	A7
IC7916	B2	R3936	A6
IC7919	M7	R3937	A3
L5903	E6	R3943A	C3
Q7804	H5	R3945	A5
Q7805	I5	R3946	B5
Q7806	I3	R3947A	A5
Q7807	J7	R3948	B6
Q7810	J7	R3949	C5
Q7813	I7	R3950	A4
Q7816	H7	R3951	H1
Q7817	G6	R3952	H1
Q7911	F5	R3953	C2
Q7915	G1	R3957A	B3
Q7917	C2	R3958A	D2
Q7918	A4	R3961A	E5
Q7920	E2	R3962A	G2
R3801	H2	R3964	B3
R3802	H2	R3965A	B3
R3805	G2	R3968A	D9
R3806	G7		
R3807	G6		
R3812	H4		
R3813	H4		

LARGE SIGNAL BOARD - TOP VIEW



A SAMS Technical Publishing GRIDTRACE™ PHOTO

LARGE SIGNAL BOARD - TOP VIEW, GRIDTRACE LOCATION GUIDE

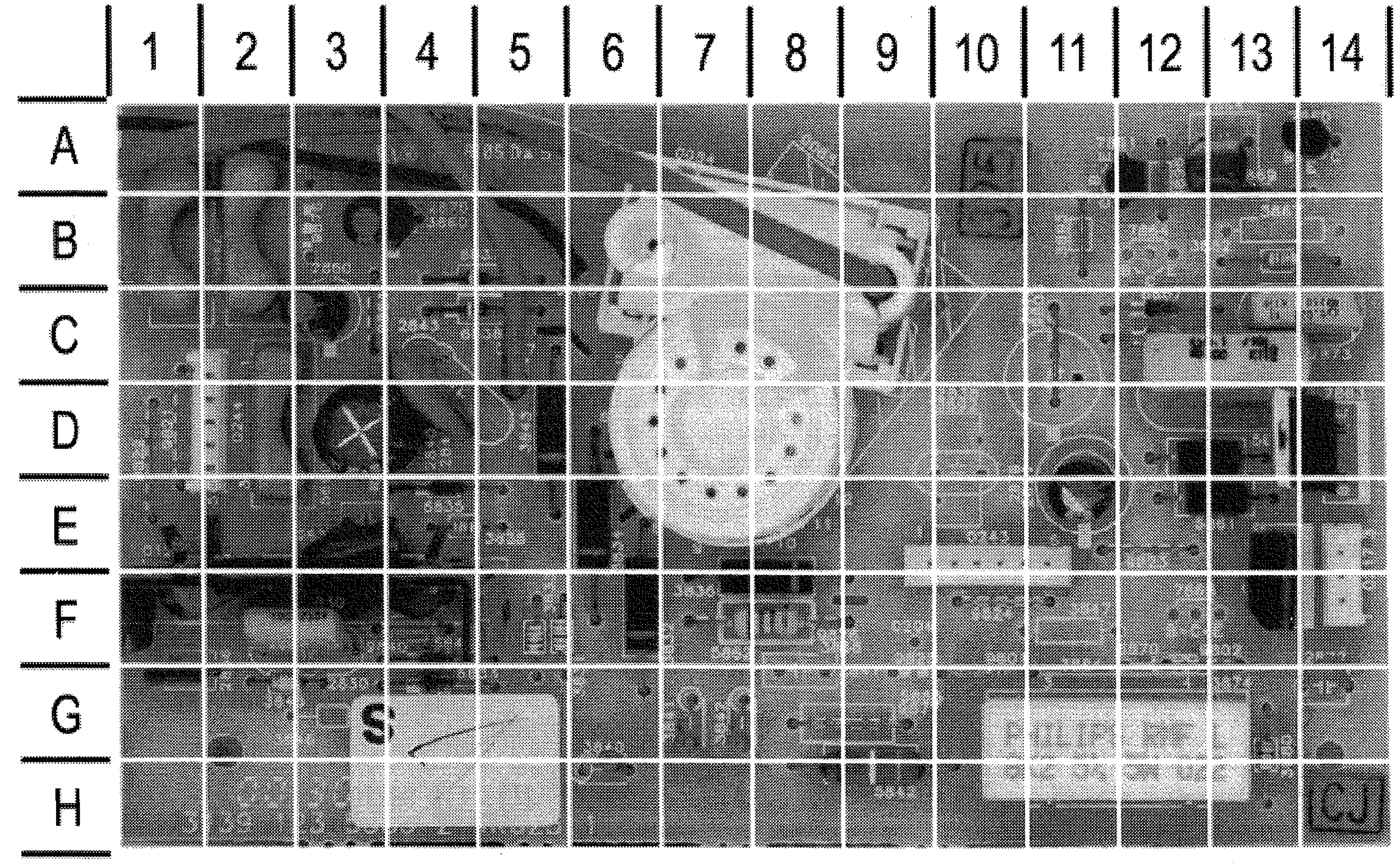
C2224	O2	C2929	G8	FB5971	G7	R3206	O3	R3490	N10
C2261	N1	C2936	I7	IC7501	O6	R3208	O4	R3491	N10
C2265	O1	C2938	H7	IC7702	H1	R3211	O4	R3504	M4
C2271	L1	C2939	I7	IC7921	J10	R3212	O3	R3511	M5
C2284	I3	C2941	F6	IC7929	K10	R3216	O4	R3521	O6
C2404	O9	C2942	G6	IC7942	G4	R3217	O3	R3522	M4
C2406	O9	C2943	F6	IC7967	H4	R3218	O4	R3523	N5
C2409	O5	C2945	G3	IC7968	F4	R3219	O3	R3524	N5
C2411	N9	C2961	H6	IC7971	I6	R3223	O3	R3526	N5
C2415A	K7	C2962	G6	J1262	P3	R3226	O4	R3527	N5
C2416	L8	C2964	F7	J1264	P6	R3227	N4	R3528	N5
C2417A	K6	C2966	H3	L5201	I2	R3233	O4	R3530	N5
C2419	I5	C2967	I3	L5202	I2	R3238	O4	R3704	H1
C2420	J6	C2969	G5	L5262	L1	R3242	O5	R3727	G2
C2430A	L7	C2970	H9	L5406	O9	R3249	N4	R3732	G2
C2434	K5	C2974	G7	L5409	K7	R3278	J3	R3736	G3
C2437A	N6	C2977	B5	L5411	N9	R3401	O8	R3737	G3
C2439A	L4	D6413	I3	L5417	J7	R3402	O9	R3901	B9
C2445	M5	D6414	K8	L5430	L7	R3403	O8	R3902	B8
C2447	K4	D6419	K6	L5445	M6	R3405	L6	R3913	E10
C2449	M5	D6420	K5	L5446	M6	R3409	O5	R3923	H9
C2462	K4	D6439	L4	L5448	M6	R3410	N10	R3924	I9
C2471	M9	D6440	L4	L5475	L9	R3411	K6	R3925	H10
C2473	M10	D6442	J4	L5521	O7	R3412	K6	R3926	G10
C2474	J8	D6445	M6	L5523	N4	R3414	N6	R3928	H9
C2478	K4	D6447	L5	L5524	N4	R3417	K7	R3943	G4
C2484	O9	D6448	L5	L5939	H6	R3421	J6	R3944	B6
C2485	O8	D6461	K5	LC5902	C7	R3423	K6	R3961	D5
C2505	O8	D6474	K8	M0200	N4	R3430	K6	R3967	H4
C2506	O7	D6480	J4	M0201	L1	R3434	L6	R3969	H4
C2521	O6	D6505	O7	M0207	N3	R3435	N5	R3970	F5
C2522	M4	D6511	M5	M0211	E9	R3436	N6	R3991	F5
C2523	O6	D6512	M4	M0212	D9	R3437	L5	R3996	D7
C2524	N5	D6522	M4	M0215	D4	R3439	L4	RY1931	F7
C2531	K4	D6701	I2	M0221	K7	R3441	K4	SP1901	D8
C2701	G2	D6915	E9	M0222	N4	R3445	M5	T5431	M7
C2702	H2	D6916	J9	M0224	D3	R3446	L5	T5912	I8
C2703	H2	D6926	I9	M0226	J2	R3447	L5	TH3911	D9
C2704	F2	D6928	H9	M0236	L2	R3448	M5	TU1225	O1
C2705	H1	D6929	H9	M0240	K2	R3449	L5	ZD6464	J5
C2707	H2	D6932	F7	M0241	N5	R3450	L5	ZD6472	L9
C2708	H2	D6938	H7	M0242	M3	R3452	I4	ZD6481	O5
C2709	G1	D6941	G6	M0246	F1	R3470	M10	ZD6921	J10
C2712	F3	D6942	F6	M0272	M3	R3471	L9	ZD6966	E6
C2715	F3	D6961	H5	Q7408	N6	R3472	L9		
C2718	F3	D6971	F6	Q7410	O10	R3473	M10		
C2726	F3	D6973	G4	Q7440	L4	R3476	M10		
C2733	G3	D6986	F5	Q7464	J5	R3477A	J7		
C2902	C9	D6991	F5	Q7470	M10	R3478	K4		
C2908	F9	F1900	D8	Q7478	K4	R3479	K4		
C2909	E8	F1941	G6	Q7480	K4	R3480	K4		
C2915	G9	F1961	H6	Q7481	O8	R3481	J5		
C2919	J10	FB5920	H8	Q7965	E6	R3482	J4		
C2921	I10	FB5924	I10	R3039	C3	R3483	K4		
C2922	J9	FB5936	I7	R3040	E3	R3487	J5		
C2925	I9	FB5941	H6	R3201	O3	R3488	L5		
C2927	I9	FB5961	H6	R3203	N4	R3489	L9		

PARTS LIST continued

Item No.	Function/Rating	Mfr. Part No.	Notes
R3942A	47K AGC	2120 363 90166	-
R3944A	47K AFC	2120 363 90166	-
RM1002	Receiver	9322 127 54667	Remote
# **RY1931**	Relay	2422 132 07444	Degaussing
S1000	Switch	2422 128 02742	Power
S1091	Switch	2422 128 02742	Channel Up
S1092	Switch	2422 128 02742	Channel Down
S1093	Switch	2422 128 02742	Volume Up
S1094	Switch	2422 128 02742	Volume Down
SF1451	Filter	2422 549 44377	SAW
SF1901	Filter	2422 549 43074	SAW
SP1, SP2	Speaker	3139 128 76071	2 ¼" X 5", 16 Ohms, 5W
SP1901	Surge Protector	2422 549 43073	-
# **T5431** (2)	Horizontal Output	3128 138 21011	-
# **T5912**	Power	2422 531 02374	-
TH3911	3.3 Cold PTC	2120 661 00025	-
TU1225	Tuner	2422 542 90057	-
TU1900	Tuner	2422 542 90057	-
# **V1010**	CRT	9322 142 09682	A68QCP891X001
X1057	Crystal	2422 543 01095	12MHz
X1327	Crystal	2422 543 01095	12MHz
X1333	Trap	2422 549 44043	4.5MHz
X1630	Crystal	2422 543 01059	18.432MHz
X1800	Crystal	-	-
X1801	Crystal	-	-
X1802	Crystal	2422 543 00904	14.31818MHz
X1902	Filter	2422 549 40807	4.5MHz
	Fuse Holder	3122 358 71251	For F1900 (2 Used)
	PC Board	3139 178 89311	CRT
	PC Board	3139 178 65661	Front Interface Panel
	PC Board	3139 178 88281	Large Signal
	PC Board	3139 178 89081	M-Link
	PC Board	3139 178 59401	PIP
	PC Board	3139 178 67911	Side Control Panel
	PC Board	3139 178 63191	Small Signal
	PC Board	3139 178 82271	Top Control Panel
	Transmitter	3139 128 76191	Remote

For SAFETY use only equivalent replacement part.
(1) Bonded part of CRT.
(2) Screen and focus controls are part of T5431.

CRT BOARD



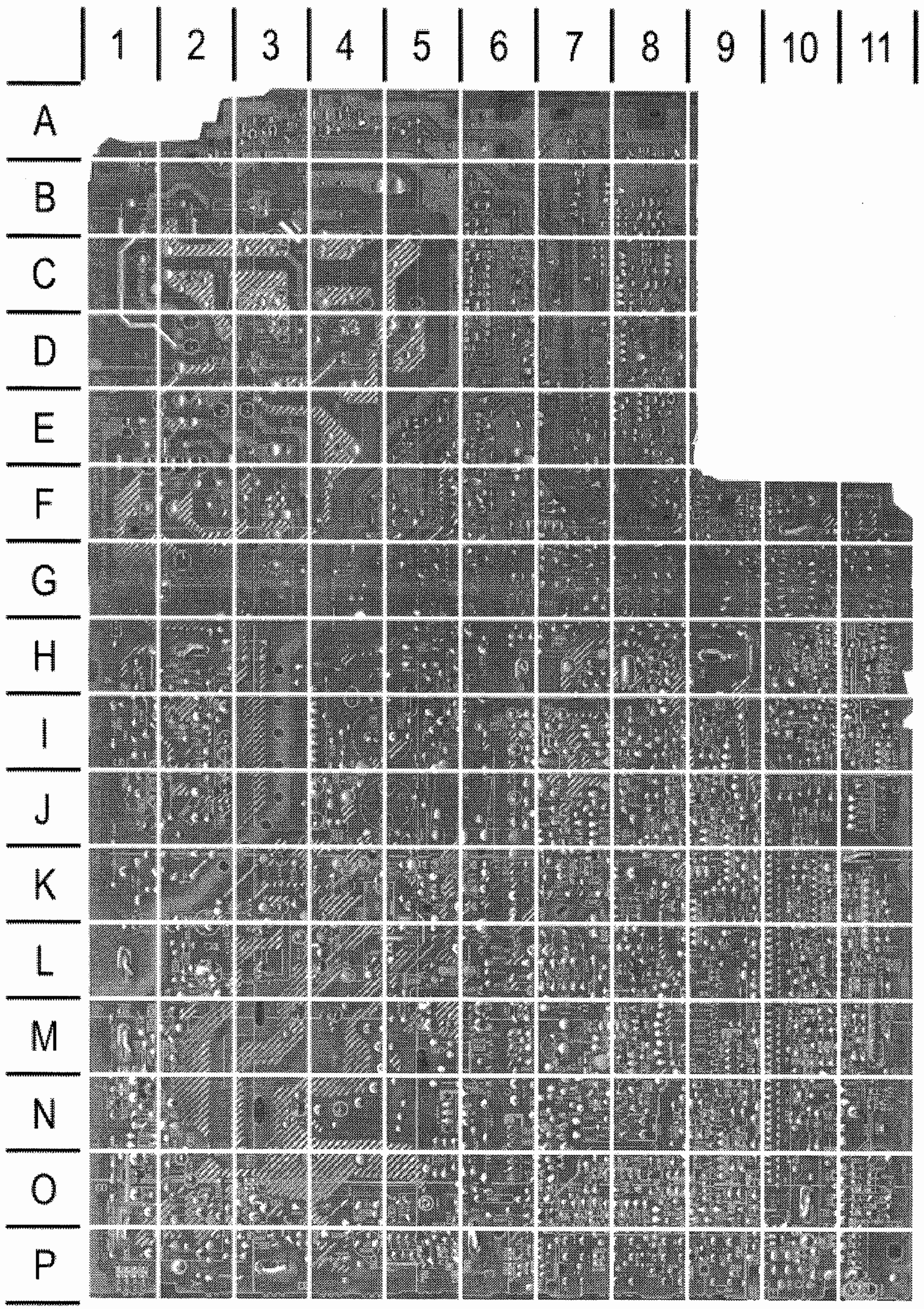
A SAMS Technical Publishing GRIDTRACE™ PHOTO

CRT BOARD, GRIDTRACE LOCATION GUIDE

C2830	F2	C2872	G14	L5862	F8	R3840	H6	R3875*	B13
C2831	E3	C2873	C14	L5886	B1	R3841	G7	R3876*	B13
C2835*	E2	C2874*	E12	L5888	B2	R3842	G7	R3877*	B13
C2836	G1	C2876	B3	L5890A	D2	R3843	D5	R3878*	D12
C2840	D3	D6831	G4	M0217	F14	R3845	G2	R3880	G13
C2843	C4	D6832*	E2	M0243	E9	R3861*	A1	R3882	B13
C2860	C3	D6833	F4	M0244	C2	R3862*	A2	R3886*	B1
C2861*	D2	D6835	E4	Q7860	A14	R3863*	D2	R3888*	B2
C2862*	A2	D6861*	C4	Q7861	A12	R3864*	A14	R3890*	C2
C2863*	A1	D6862*	C4	Q7862	E13	R3865*	B13	ZD6837	B4
C2864	A13	D6867	C12	Q7863	D14	R3866*	B13	ZD6838	C4
C2866*	B13	D6868	C12	R3831	F5	R3869*	C12		
C2867*	B14	D6869	A13	R3832	F6	R3870*	E12		
C2868*	C12	FB5860	D13	R3833	F5	R3871*	C13		
C2869	C13	FB5861	E13	R3834	E6	R3872*	C14		
C2870*	C14	IC7830	F2	R3835	E4	R3873*	C14		
C2871	E11	L5842	H9	R3836	F8	R3874	G11		

* Located on bottom of board.

LARGE SIGNAL BOARD - BOTTOM VIEW



A SAMS Technical Publishing GRIDTRACE™ PHOTO

LARGE SIGNAL BOARD - BOTTOM VIEW, GRIDTRACE LOCATION GUIDE

C2012	D8	C2727	I11	Q7990	D6	R3503	O6	R3959	E7
C2201	O9	C2728	I11	Q7991	C6	R3512	M8	R3962	C6
C2203	O8	C2729	H11	Q7992	C6	R3513	M7	R3963	F5
C2206	O9	C2730	H11	R3037	D8	R3701	H10	R3965	E6
C2208	O8	C2731	G10	R3038	D8	R3702	G10	R3966	E6
C2211	O8	C2732	G10	R3202	O9	R3705	H11	R3968	H8
C2217	O9	C2735	G10	R3204	O8	R3706	H11	R3977	I6
C2219	O9	C2932	E5	R3207	O9	R3707	H11	R3978	C6
C2225	P10	C2963	F5	R3209	O8	R3708	I10	R3979	C6
C2227	O8	D6238	I9	R3224	P10	R3709	I10	R3986	G6
C2233	O7	D6266	J9	R3225	O10	R3710	G10	R3987	G6
C2239	P7	D6271	L10	R3234	O7	R3711	G10	R3989	H7
C2248	N10	D6273	L10	R3239	P7	R3712	F9	R3992	D6
C2249	O8	D6274	M9	R3241	L11	R3713	F9	R3993	D6
C2262	O11	D6275	M9	R3247	O9	R3715	F9	R3994	D6
C2266	N10	D6276	M9	R3248	P6	R3716	F9	R3997	C7
C2276	J9	D6279	L11	R3255	N9	R3717	G9	ZD6201	P8
C2280	L11	D6463	J8	R3256	N9	R3719	F9	ZD6202	P9
C2281	M11	IC7703	F9	R3257	M9	R3720	F9	ZD6203	P8
C2282	M10	L5261	O11	R3263	O11	R3721	I10	ZD6204	P9
C2422A	K8	Q7224	P10	R3267	O11	R3722	F10	ZD6205	P8
C2442	J8	Q7273	L10	R3268	O11	R3723	F9	ZD6206	P8
C2490	K8	Q7276	J9	R3271	M10	R3724	H10	ZD6208	O7
C2492	K7	Q7277	J9	R3272	L11	R3725	G10	ZD6267	O11
C2501	P5	Q7280	M10	R3273	M10	R3728	G10	ZD6268	O11
C2503	O5	Q7467	K7	R3274	M10	R3730	H11	ZD6279	L11
C2536	P5	Q7513	M8	R3276	J9	R3731	I11	ZD6468	N1
C2706	I10	Q7701	H11	R3277	J9	R3733	H10	ZD6977	C6
C2711	F10	Q7704	H10	R3280	M11	R3734	I11		
C2713	F9	Q7710	I10	R3281	L11	R3735	H11		
C2714	F9	Q7711	I11	R3282	J9	R3917	E6		
C2716	F9	Q7712	F9	R3283	M10	R3931	D6		
C2717	F9	Q7922	E6	R3438	M8	R3932	E5		
C2719	H10	Q7932	E5	R3440	K8	R3942	G8		
C2720	H10	Q7944	B6	R3484	K7	R3947	G7		
C2722	H10	Q7950	D6	R3485	K7	R3957	L2		
C2723	H10	Q7987	G7	R3501	O6	R3958	I5		

PARTS LIST

Item No.	Type No.	Mfr. Part No.	NTE Part No.
D1008	-	9322 050 99682	-
D6091	BAT85	9336 247 60133	NTE585
D6238, 66		3198 010 10630	-
D6271, 73 ,74		3198 010 10630	-
D6275, 76		3198 010 10630	-
D6302	-	9322 125 45685	-
D6303	-	9322 137 65685	-
D6307	1SS355	9322 112 83685	NTE519
D6412	1SS355	9322 112 83685	NTE519
D6413	1N4148	3198 010 10010	NTE519
D6414	-	9340 347 60112	-
D6415	1SS355	9322 112 83685	NTE519
D6419, 20	BYD33D	9337 234 00133	NTE569
D6439	-	3198 010 22790	NTE5033A
D6440, 43	1N4148	3198 010 10010	NTE519
D6445	BYD33J	9337 234 20133	NTE569
D6447, 48	-	9336 215 90112	-
D6461	BYD33D	9337 234 00133	NTE569
D6463	-	9340 255 30115	-
D6474		9340 559 53112	-
D6475	-	-	-
D6480	1N4148	3198 010 10010	NTE519
D6505	BYD33D	9337 234 00133	NTE569
D6511	1N4148	3198 010 10010	NTE519
D6512	-	3198 010 25680	NTE5011T1
D6522	BYD33D	9337 234 00133	NTE569
D6523	-	-	-
D6524	-	-	-
D6605	1SS355	9322 112 83685	NTE519
D6701	1N4148	3198 010 10010	NTE519
D6751 Thru			
D6754		9322 112 83685	-
D6801	-	9336 247 60133	-
D6831	-	3198 010 10070	NTE177
D6832	-	9340 255 30115	-
D6833, 35	-	3198 010 10070	NTE177
D6861, 62	-	9340 255 30115	-
D6867, 68	1N4148	3198 010 10010	NTE519
D6869	-	3198 010 23980	-
D6915	-	9322 132 55667	-
D6916	-	3198 010 23390	-
D6926, 28, 29	BYD33D	9337 234 00133	NTE569
D6932	1N4148	3198 010 10010	NTE519
D6938		9340 380 20127	-
D6941	-	9322 128 18682	-
D6942	BYD33D	9337 234 00133	NTE569
D6961	-	9322 128 18682	-
D6971		9322 100 13682	-
D6973	1N4148	3198 010 10010	NTE519
D6986	-	3198 010 21590	NTE5024A
D6991	-	3198 010 28280	NTE5016A
IC7064	SAA5667	9352 659 94557	-
IC7066	M24C32	9322 124 74668	-
IC7301	TDA8887H	9352 638 72557	-
IC7401	74LV153PW	9351 869 40118	-
IC7405	TC90A45F	9322 144 38668	-
IC7407	74HC4066PW	9351 750 00118	-
IC7501	-	9339 229 40682	NTE1788
IC7630	74HC4052	9351 874 90118	-
IC7651	MSP3435	9322 143 55671	-
IC7702	AN5277	9322 148 81667	-
IC7703	TDA1308T	9350 721 10115	-
IC7801	-	9333 729 60653	-
IC7803	-	9322 146 60682	-
IC7830	-	9352 561 40112	-
IC7910	M6230	9322 127 15668-	
IC7914	TDA9801/V1	9352 606 44112-	
IC7916	HEF4053BT	9333 729 60653	-
IC7919	TDA8601T	9351 538 90518-	
IC7921	STR-F6426	9322 140 37682	-
# **IC7929**	TCET1103(G)	9322 140 14667	-
# **IC7942**	-	9337 220 80682	NTE956
IC7967, 68	SI-3050C	9322 137 01682	-
IC7971	SEI130N	9322 116 23682	-

Item No.	Type No.	Mfr. Part No.	NTE Part No.
Q7053A, B	BC847BS	9340 425 20115	-
Q7063	BC847BW	3198 010 42310	-
Q7224	BC847B	3198 010 42030	NTE2408
Q7273	BC857B	3198 010 42150	NTE2409
Q7276	BC847B	3198 010 42030	NTE2408
Q7277	BC857B	3198 010 42150	NTE2409
Q7280	BC847B	3198 010 42030	NTE2408
Q7307	BC847BW	3198 010 42310	-
Q7331	BC857BW	3198 010 42320	-
Q7368	BC847BW	3198 010 42310	-
Q7408	BF423	3198 020 43020	NTE288
Q7410	BU4522AX	9340 547 93127	-
Q7412	BC847BS	9340 425 20115	-
Q7415A, B	BC847BS	9340 425 20115	-
Q7421, 25	BC847BW	3198 010 42310	-
Q7440	BC557B	3198 020 40110	NTE159
Q7442, 46	BC847BW	3198 010 42310	-
Q7464	BC547B	3198 020 40030	NTE123AP
Q7467	BC857B	3198 010 42150	NTE2409
Q7470	-	9322 123 96687	-
Q7478, 80	BC547B	3198 020 40030	NTE123AP
Q7481	BF819	9335 354 50127	NTE198
Q7513	BC847B	3198 010 42030	NTE2408
Q7701, 04, 10	BC847B	3198 010 42030	NTE2408
Q7711, 12, 51	BC857B	3198 010 42150	NTE2409
Q7751	BC857B	3198 010 42150	NTE2409
Q7752	BC847B	3198 010 42030	NTE2408
Q7753	BC857B	3198 010 42150	NTE2409
Q7754	BC847B	3198 010 42030	NTE2408
Q7804 Thru			
Q7807	BC847B	3198 010 42030	NTE2408
Q7810, 13	BC847B	3198 010 42030	NTE2408
Q7816, 17	BC847B	3198 010 42030	NTE2408
Q7860	BF199	9330 634 20126	NTE229
Q7861	BF370	9335 447 20126	-
Q7862	BD830	9334 507 70127	-
Q7863	BD829	9334 507 60127	NTE49
Q7891	BC337-25	3198 020 43530	NTE123AP
Q7911, 12	BC369	-	-
Q7915	BC847B	3198 010 42030	NTE2408
Q7917	BC857B	3198 010 42150	NTE2409
Q7918	BC847B	3198 010 42030	NTE2408
Q7920, 22	BC857B	3198 010 42150	NTE2409
Q7932, 44, 50	BC847B	3198 010 42030	NTE2408
Q7965	BC337	9331 796 00126	NTE188
Q7987, 90	BC857B	3198 010 42150	NTE2409
Q7991, 92	BC847B	3198 010 42030	NTE2408
ZD6031	BZX284-C2V4	9322 131 13685	-
ZD6201 Thru			
ZD6208	-	3198 020 51290	-
ZD6267, 68	BZX284-C6V8	9322 150 07685	-
ZD6279	-	3198 020 55680	-
ZD6464	BZX79-C4V7	9331 668 30133	-
ZD6472	BZX79-C10	3198 010 21090	-
ZD6837, 38	-	9337 534 80133	-
ZD6890	-	9340 385 80115	-
ZD6291	-	3198 020 51290	-
ZD6292, 93, 94	-	3198 020 51290	-
ZD6464	-	9331 668 30133	-
ZD6468	-	3198 020 51090	-
ZD6472	-	3198 010 21090	-
ZD6481	-	3198 010 53390	-
ZD6890	-	9340 385 80115	-
ZD6921	-	3198 010 23390	NTE5036A
ZD6966	-	3198 010 23980	-
ZD6977	-	3198 020 55180	-

Item No.	Function/Rating	Mfr. Part No.	Notes
L5262	12µH	3198 018 21290	-
# **AC01**	Line Cord	3135 010 03831	AC, Polarized
# **AC10**	Degaussing	2422 549 44675	-
# **C2411**	390pF 10% 2kV	2020 558 90482	-
# **C2415A**	.012 1.6kV	2222 375 90156	-
# **C2416**	390pF 10% 2kV	2020 558 90482	-
# **C2419**	.36 5% 250V	2222 479 90019	-
C2843	.0022 10% 2kV	2020 558 90559	-
# **C2902**	.47 20% 275VAC	2222 336 29148	-
C2908, 09	.0022 10% 1kV	3198 019 52220	-
C2922	.0022 10% 2kV	2020 558 90559	-
# **C2929**	.0022 20% 250VAC	2020 554 90127	-
C2938	470pF 10% 1kV	3198 019 64710	-
# **F1900**	Fuse	2422 086 10905	4A, 250V
# **F1941**	Fuse	2422 086 10782	1.6A, 250V
# **F1961**	Fuse	2422 086 10782	1.6A, 250V
FB5860, 61	Ferrite Bead	2422 535 96559	-
FB5920, 24, 36	Ferrite Bead	3198 018 90010	-
FB5941, 61, 71	Ferrite Bead	3198 018 90010	-
J1254	Jack	2422 026 04747	Headphone
J1255	Jack	2422 026 05026	Assembly
J1256	Jack	2422 026 04926	SVHS
J1262	Jack	2422 026 05106	Assembly
J1264	Jack	2422 026 04926	SVHS
# **L1** (1)	Yoke	-	Horiz 1.1mH, Vert 13.5mH
L5040, 41, 42	4.7µH	3198 018 64780	-
L5201, 02	22µH	3198 018 12290	-
L5203	-	3198 021 90020	-
L5204	-	0322 179 00003	-
L5261	5.6µH	3198 018 35680	-
L5309, 32, 33, 34	6.8µH	3198 018 66880	-
L5401	.82µH	3198 018 38270	-
L5402	-	-	-
L5406	Horizontal Driver	3128 138 33341	-
L5409, 11	Ferrite Bead	3198 018 90020	-
L5417	Horizontal Linearity	3128 138 53181	-
L5421	22µH	3198 018 32290	-
L5422, 25, 26	15µH	3198 018 61590	-
L5430	22µH	2422 535 95365	-
L5445	27µH	3198 018 22790	-
L5446, 48	12µH	2422 535 95598	-
L5475	-	3128 138 37021	-
L5521, 23, 24	Ferrite Bead	2422 535 95444	-
L5601	1µH	3198 018 61080	-
L5602	4.7µH	3198 018 64780	-
L5625	1µH	3198 018 61080	-
L5665	15µH	3198 018 61590	-
L5842	39µH	2422 535 95596	-
L5862	5.6µH	3198 018 25680	-
L5886, 88, 90	Delay Line	2722 122 00252	-
L5890A	10µH	3198 018 210 90	-
L5891, 92	10µH	3198 018 210 90	-
L5901	IFT	3139 128 23341	-
L5902	4.7µH	3198 018 24780	-
L5903	.82µH	3198 018 38270	-
L5905	4.7µH	3198 018 14780	-
L5906	5.6µH	3198 018 15680	-
L5939	27µH	2422 535 95366	-
LC5902	Filter	2422 549 43432	-
M0084	Socket	2422 500 80053	CRT
R3039, 40	10 5% 3W	3198 012 31090	-
R3331, 32	2.2 5% 1/8W Fusible	2322 750 62208	-
R3405	4700 5% 5W	2322 257 41472	-
R3430, 34	33 5% 3W	3198 012 22230	-
# **R3411**	330K 5% 1/2W	2322 242 13334	-
# **R3445** Thru			
# **R3449**	1 5% 1/2W Fusible	2306 207 03108	-
R3482	10K 1%	2322 156 21003	-
R3483	3300 1%	2322 156 23302	-
# **R3487**	1 5% 1/2W Fusible	2306 207 03108	-
R3492	1200 1%	2322 734 61202	-
R3504	2200 1%	2322 156 22202	-
# **R3521**	1.5 5% Fusible	2306 204 03158	-
# **R3736, 37**	1 5% 1/3W Fusible	2306 204 03108	-
# **R3840**	100 5% 1/3W Fusible	2306 204 03101	-
# **R3841, 42**	1 5% 1/3W Fusible	2306 204 03108	-
R3874	8200 5% 5W	2322 257 41822	-
# **R3901**	4.7M 5% 1/2W	2322 242 13475	-
# **R3902**	2.2M 5% 1/2W	2322 242 13225	-